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FLIGHT EFFECTS ON THE AERODYNAMIC AND ACOUSTIC CHARACTERISTICS OF INVERTED PROFILE COANNULAR NOZZLES

COMPREHENSIVE DATA REPORT

NASA CR-135189
(PWA-5509)

VOLUME II

Prepared for
NASA Lewis Research Center
Under Contract NAS3-17866

March 1977

Approved by

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16 Abstract

This report documents the work performed during the flight effects phase of Contract NAS3-17866 Due to the large amount of information generated under this program, the report has been prepared in three volumes Volume I contains a graphical presentation of data generated under this program Volume II contains the acoustic data from the acoustic tests of the convergent reference nozzle and the 0 75 area ratio coannular nozzle This volume also contains the data processing routines used to scale the acoustic data and to correct the data for atmospheric attenuation Volume III contains the acoustic data from tests of the 0 75 area ratio coannular nozzle with ejector and the 1 2 area ratio coannular as well as the aerodynamic data acquired for the four test configurations The companion final report, NASA CR-3018, includes a description of the facilities used, the test hardware, the significant test results, conclusions and technology recommendations

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FOREWORD

This report documents the work performed during the flight effects phase of Contract NAS3-17866 Due to the large amount of information generated under this program, the report has been prepared in three volumes

Volume II contains the acoustic data from the acoustic tests of the convergent reference nozzle and the 0 75 area ratio coannular nozzle This volume also contains the data processing routines used to scale the acoustic data and to correct the data for atmospheric attenuation

Volume I contains graphical presentations of the data generated under this program

Volume III contains the acoustic data from tests of the 0 75 area ratio coannular nozzle with ejector and the 1 2 area ratio coannular nozzle as well as the aerodynamic data acquired for the four test configurations.

The companion final report, NASA CR-3018, includes a description of the facilities used, the test hardware, the significant test results, the conclusions and technology recommendations

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VOLUME II

1. INTRODUCTION

The data presented in this volume was acquired during acoustic tests of scale model nozzles under wind tunnel simulation of forward flight condition

The acoustic data presented in Section A contains the model data which has been corrected to the "Theoretical Day " During simulated flight conditions, the wind tunnel shear layer refraction and moving medium corrections are included. For selected test conditions, the model data has been scaled to full size The model data include 1/3 octave band sound pressure levels, 1/3 octave band sound power levels, overall sound pressure levels and overall sound power levels The scaled engine data include 1/3 octave band sound pressure levels, 1/3 octave band power levels, overall sound pressure levels, overall sound power levels and sideline perceived noise levels at various distances The procedures used to scale the model size data up to full size is presented in detail in Appendix I. The detailed procedure used to adjust the data for atmospheric attenuation is presented in Appendix II

An index is included in section 2 which defines the nozzle operating conditions run on each configuration as well as the test point numbers for all data points in order to facilitate locating the data for any specific set of test conditions and configuration. A data identification guide explaining in detail the information contained on each type of data sheet is presented in section 3 The data sheets for all the test cases appear in section A

The "theoretical day" used for presentation of-the model data is defined as a hypothetical day with atmospheric conditions producing zero atmospheric absorption of noise

2. INDEX TO TABULATED DATA

The acoustic data are presented by configuration The configurations to which the data apply are identified by the configuration numbers listed below

Configuration Number	Configuration Description
1	Convergent Reference Nozzle
2	0 75 area ratio coannular nozzle

Acoustic Data

The acoustic data are arranged in the following manner according to the method of data processing The model scale "Theoretical Day" data for each configuration in the static condition (i.e , tunnel flow off) are presented first, followed by the data in the simulated flight condition (i e , tunnel flow on) Then, for selected test points, the model data were scaled 22 5 times to represent the noise of a full size engine Within each type the data are presented in test point number sequence

To aid in locating tabulated data for any set of nozzle operating conditions, matrices have been prepared, and included in this index to identify the test point numbers for the various test conditions The following is an example of how to use the matrix To find the test point number for data on the 0.75 area ratio coannular nozzle tested at P_{tf}/P_a = 2 5, T_{tf} = 600°F, P_{tp}/P_a = 1 53 and T_{tp} = 250°F, at tunnel speed (V_∞) of 340 fps locate the matrix for the desired configuration (in this case, Page 4). The matrix shows the test point number is 3331 for the operating conditions specified. The test point number can then be used to locate the tabulated acoustic data listed for the configuration of interest The selected test points for which scaled data are presented appear underlined in the index

ACOUSTIC TEST MATRIX

CONFIGURATION 1 – CONVERGENT NOZZLE

NOMINAL FLOW CONDITIONS			TEST POINT NUMBERS TUNNEL SPEED V_∞ (fps)					
P_t/P_{amb}	T_t (°F)	V_j (fps)	Static	100	200	340	425	Comments
1.3	250	785	3652	3651	3650	3661		
1 53	250	990	3647	3648	3649	3660		
1.8	250	1150	3646	3645	3644	3659		
2.0	250	1240	3641	3642	3643	3658		
2 5	250	1405	3640	3639	3638	3657		
3 2	250	1555	3635	3636	3637	3656		
1.3	600	960	3609	3610	3611	3614		
1.8	600	1405	3608	3607	3606	3613		
2.5	600	1720	3603	3604	3605	3612		
3 2	600	1905	3622	3621	3620	3615		
1 3	800	1050	3634	3633	3632	3619		
1 8	800	1535	3631	3630	3629	3618		
2 5	800	1875	*3628	*3627	*3626	*3617		*Velocity Survey
3.2	800	2080	3625	3624	3623	3616		
Tunnel Background Noise			3653	3654	3655	3662		

Underlined Test Points Indicate Conditions for Which Scaled Data are Presented

ACOUSTIC TEST MATRIX

CONFIGURATION 2 – 0 75 AREA RATIO COANNULAR NOZZLE

NOMINAL FLOW CONDITIONS						TEST POINT NUMBERS					
Primary			Fan			TUNNEL SPEED V_∞ (fps)					
P_{tp}/P_{amb}	T_{tp} (°F)	V_j (fps)	P_{tf}/P_{amb}	T_{tf} (°F)	V_j (fps)	Static	100	200	340	425	Comments
1.53	250	990	1 3	250	785	3324	3323	3322	3329		
1 53	250	990	1.53	250	990	3319	3320	3321	3328		
1 53	250	990	1 8	250	1150	3318	3317	3316	3327		
1.53	250	990	2 5	250	1405	3350	3313	3315	3326		
1.53	250	990	3.2	250	1555	3349	3310	3311	3325		
1 53	250	990	1 3	600	960	3351	3352	3353	3330		3331-3332-3333-3334
1.53	250	990	1.8	600	1405	3346	3347	3348			Data No Good
1 53	250	990	2.5	600	1720	3345	3344	3343			
1 53	250	990	3 2	600	1905	3340	3341	3342			
1 53	250	990	1 3	800	1050	3370	3369	3368	3375		
1 53	250	990	1 8	800	1535	3365	3366	3367	3374		
1 53	250	990	2 5	800	1875	*3364	3363	*3362	*3373	*3372	*Velocity Survey
1 53	250	990	3.2	800	2080	3358	3359	3361		3371	
			1.3	800	1080	3388		3386	3379		
			1 8	800	1535	3384		3385	3378		
			2 5	800	1875	*3383		*3382	*3377		*Velocity Survey
			3 2	800	2080	3380		3381	3376		
Tunnel Background Noise							3354	3355	3356	3357	

Underlined Test Points Indicate Conditions for Which Scaled Data are Presented.

3. DATA IDENTIFICATION GUIDE

ACOUSTIC DATA

The acoustic data is organized in Section A according to the index in the preceding section. For each configuration, all the model scale "Theoretical Day" data in the static condition and the tunnel background noise data are presented first, with each page of acoustic data corresponding to one operating condition. Following the static data are the data in the simulated flight condition with four pages of data corresponding to one operating condition. The four pages represent different degrees of data processing. Lastly, for selected test conditions, the model data has been scaled to full size in which each page of data corresponds to one operating condition.

- Static and Background Noise Data

Each static and background noise operating condition is presented in a separate page. We will use data run 3603 listed in page A1-1 as an example to describe the information presented.

At the top of the page is listed the identifying information for the test point The significant information for the user is the configuration number appearing on the first line and the run number [appearing next to both (run number) and (condition] at extreme left of second line

Directly below the identification section are listed the pertinent ambient and nozzle operating parameters in both U S customary units as well as the International System of Units (S I).

The left hand columns list the full scale primary and fan stream exhaust nozzle areas (AREA) as equal to zero to indicate that the noise data are in model scale form. In the same columns are found the stream total to ambient pressure ratio (P.R.), stream temperature (TEMP), and stream density (RHO), and the ideally expanded velocity (VEL).

The right hand columns list the full scale mass flow (MASS FLOW) as equal to zero to indicate that the noise data are in scale model form. Also listed in this column are the model size ideal thrusts (THRUST, IDL), exhaust nozzle areas (AREA MOD), and mass flows (W MODEL)

Below the parameter listing are the tabulated, model scale one-third octave band sound pressure levels at a 10 ft. polar distance under free-field measurement conditions during a "Theoretical Day." The center frequencies of the 30 measured one-third octave bands from 100 Hz to 80K Hz are listed in the left hand column. The one-third octave band sound pressure levels for each microphone measuring angle (70° to 150°) at 10 degree increments, at each one-third octave band are listed in the appropriate columns.

The one-third octave band power levels (referenced to 10^{-12} watts) are listed at the extreme right hand side of the page.

Below the one-third octave band sound pressure and sound power levels are listed the 10 ft. radius overall sound pressure level (OSPL) for each angle and the overall sound power level (OAPWL).

The actual tunnel ambient conditions existing during the test are handwritten between the SPL and PWL data (V_∞) is the tunnel stream velocity (0 for static runs), (Ta) is the chamber air temperature; (RHa) is the relative humidity and (Pa) is the chamber pressure

Flight Data

The flight model data is presented in four consecutive pages for each run Data run 3604 (pages A1-19 through A1-22) is used as an illustration to describe the information presented in each page

The first page (similar to A1-19) is the model data on a "theoretical day" with the tunnel background noise removed, but without any corrections for shear layer or moving media effects This can be considered to be "as measured" data At the top of the page is listed the title for data base identification The title lists the computer program (DECK) where the data was stored, the length of data (LD), the test date (DATE) and the test stand (STND) The test run number is listed under (OBS) and (CORR) followed by the configuration description and number The actual values of tunnel velocity (V_∞), chamber temperature (Ta), relative humidity (RHa) and pressure (Pa) are identified to the right of the spectral data. Below the title are the tabulated, model scale one-third octave band sound pressure levels at a 10 ft polar distance under free-field measurement conditions during a "theoretical day" with the tunnel background noise removed. The center frequencies of the 30 measured one-third octave bands from 100 Hz to 80 KHz are listed in the left hand column The one-third octave band sound pressure level for each microphone measuring angle from 70° to 150° at 10 degree increments are listed in the appropriate columns Below the one-third octave band sound pressure levels are listed the 10 ft. radius overall sound pressure level where the total sound pressure level (TSPL) is the integration from 100 Hz to 80K and the sum of sound pressure level (SSPL) is the integration from 500 Hz to 80 KHz

The second page (similar to A1-20) is the model data (SSPL) and (TSPL) on a "theoretical day" with the shear layer and moving medium corrections applied. At the top of the page is listed the title for data base identification Below the title are listed the corrected angles and overall sound pressure levels (TSPL) and (SSPL) at a 10 ft radius after the shear layer refraction correction. Below the shear layer refraction correction data are listed the corrected angles (i.e , noise emission angles) and overall sound pressure levels (TSPL) and (SSPL) at a 10 ft radius after the moving medium correction At the bottom appear the original microphone angles to which the corrections were applied Environmental conditions are repeated on the right side of the page

The third page (similar to A1-21) is the spectral model data on a "theoretical day" with shear layer and moving medium corrections after the data were interpolated to the original angles (i e., 70° to 150° at 10 degree increments). At the top of the page is listed the title for data base identification Below the title are the interpolated, model scale one-third octave band sound pressure levels at a 10 ft radius on a "theoretical day" The center frequencies of the 30 measured one-third octave bands from 100 Hz to 80 KHz are listed in the left hand column The one-third octave band sound pressure levels for each microphone measuring angle 70° to 150° at each 10 degree increments are listed in the appropriate 10 ft radius overall sound pressure level TSPL and SSPL for each angle Environmental conditions are repeated to the right of the page

The fourth and last page (similar to A1-22) is the model spectral data on a "theo retical day" with shear layer and moving medium corrections and is the same data as on the previous page, but includes final heading information and noise power levels This data sheet is identical in format to the data sheet presenting the static data (see page A1-1) The spectral data presented in this fourth page represents the "simulated flight" data referred to the emission angle but without accounting for the frequency shift due to the doppler effect

The user should be aware that the OSPL values presented in the fourth data sheet (similar to A1-22) are the sum of all the SPL's presented above them in the page As such, it will be affected in some cases by spurious noises occurring at frequencies below 500 Hz. When making data comparisons involving overall sound pressure levels, the values listed under (SSTP) in the third page (similar to A1-21) should be used

Scaled Data

The selected scale data are presented in one page (similar to A1-187) At the top of each page are listed the pertinent ambient and nozzle operating parameters in U. S. customary units as well as the International System of Units (S I).

The left hand column lists the ambient temperature (TEMP), pressure (PRES), wind direction (WIND D), wind velocity (WIND V) and relative humidity (REL H) These are conditions corresponding to an FAA standard day in all cases (77°F and 70% relative humidity).

The center columns list the full scale primary and fan stream exhaust nozzle areas (AREA) as well as stream total to ambient pressure ratio (P R.), stream temperature (TEMP), and stream density (RHO). The ideally expanded velocity (VEL) is also presented.

The right hand columns list the full scale mass flow (MASS FLOW) and the full scale ideal thrusts (THRUST, IDL), model size exhaust nozzle areas (AREA MOD), and mass flow (W MODEL) of the scale models used in the test.

Below the parameter listing are the tabulated, full scale one-third octave band sound pressure levels at a 150 ft. polar distance under free-field measurement conditions during a standard FAA day. The center frequencies of the measured one-third octave bands from 50 Hz to 3150 Hz are listed in the left hand column. The one-third octave band sound pressure levels for each microphone measuring angle, 70° to 150° for each 10 degree increments, at each one-third octave band are listed in the appropriate columns.

The one-third octave band power levels (referenced to 10^{-12} watts) are listed at the extreme right hand side of the page.

Below the sound pressure level and sound power level spectra are listed the 150 ft. radius overall sound pressure level (OSPL) for each angle and the overall sound power level (OAPWL). Perceived noise levels (PNL s) are listed for each measuring angle at 150 ft. radius, and at 200 ft., 370 ft., 800 ft., and 2128 ft. sideline distances at the bottom of the data sheet.

ACOUSTIC DATA

Configuration 1
Convergent Nozzle

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/20/76 SCALE RATIO 0.0/1 RUN NUMBER 3603 CONDITION 3603

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB	123.7	0.0	N	550.1	0.0
TEMP		(R)	1062.0	0.0	(K)	590.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.048	0.0	KG/M3	0.773	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL		FPS	1724.0	0.0	M/S	525.5	0.0	W (MODEL)	LB/S	2.3	0.0	KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.4	75.1	77.0	79.6	79.8	79.4	80.9	85.0	92.9	100.6
.125	77.2	78.4	81.0	81.5	81.4	82.6	83.8	87.8	94.1	102.7
.160	80.8	83.4	83.9	85.0	84.3	84.6	85.1	90.0	96.1	105.1
.200	82.0	82.9	84.6	86.7	85.6	87.7	89.6	91.6	97.5	106.9
.250	84.9	85.5	86.3	88.2	90.8	89.1	93.3	97.6	98.3	110.1
.315	88.7	92.0	90.3	92.3	92.0	92.9	92.6	99.6	106.0	114.0
.400	93.4	92.9	92.8	92.6	92.3	92.6	98.4	100.8	109.5	116.6
.500	95.8	94.8	94.1	92.6	93.5	97.4	101.3	106.6	109.9	119.0
.630	92.4	92.7	93.7	95.6	97.0	99.8	103.2	108.1	114.3	121.7
.800	100.4	97.2	96.8	98.4	98.8	100.4	105.7	112.1	116.8	124.7
1.00	97.4	98.9	101.1	103.2	103.0	102.9	107.7	114.4	118.5	126.8
1.25	99.0	97.9	98.2	102.2	104.7	105.5	109.9	116.6	119.6	128.4
1.60	97.4	100.5	99.5	103.2	105.4	107.1	112.2	118.2	119.9	129.6
2.00	101.4	103.1	105.0	105.8	107.0	108.6	114.0	119.6	121.1	131.2
2.50	102.3	102.1	102.9	106.6	107.6	109.2	114.4	120.4	121.0	131.6
3.15	101.7	102.9	103.1	104.4	107.3	109.1	114.7	120.3	120.6	131.4
4.00	103.0	103.9	104.1	107.1	108.8	110.4	114.2	121.6	121.1	132.3
5.00	105.7	104.5	103.8	106.2	108.3	110.6	113.8	119.3	119.5	130.8
6.30	110.8	107.8	105.7	106.8	108.5	110.6	113.2	118.8	118.1	130.7
8.00	113.8	111.6	108.7	107.7	109.1	111.2	112.7	117.9	116.8	130.9
10.0	111.7	112.1	111.1	109.8	109.8	111.1	111.8	116.3	115.2	130.4
12.5	109.5	108.8	109.8	111.1	110.6	110.7	110.8	114.4	113.5	129.3
16.0	109.1	108.5	107.6	109.8	111.4	111.2	109.9	113.0	112.0	128.6
20.0	108.2	107.7	107.2	108.0	110.4	110.8	108.8	110.7	110.0	127.5
25.0	107.5	107.1	106.8	107.8	109.8	110.1	108.1	110.0	108.8	126.9
31.5	106.7	106.8	106.4	107.3	108.8	108.6	107.4	108.7	107.8	125.9
40.0	106.5	106.7	106.6	107.4	108.2	108.0	106.5	108.1	107.2	125.6
50.0	106.0	106.2	106.4	107.7	108.1	107.3	106.2	107.3	106.6	125.3
63.0	105.5	106.0	106.4	107.2	108.0	107.1	105.6	107.1	105.9	125.0
80.0	105.0	105.2	105.7	106.9	107.5	106.8	105.4	106.6	106.0	124.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	120.6	119.9	119.4	120.4	121.6	122.4	124.6	129.9	130.7	OAPWL = 142.4

V_∞ =	31	fps
T_a =	115	°F
RH_a =	10	%
P_a =	14.51	psia

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STAND XARF RIG ID VT=31 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3608 CONDITION 3608

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.61	0.0		1.81	0.0	THRUST,IDL	LB	71.3	0.0	N	317.1	0.0
TEMP		(R)	1067.0	0.0	(K)	592.8	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.044	0.0	KG/M3	0.704	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1417.0	0.0	M/S	431.9	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	69.7	68.6	71.2	73.9	73.9	73.3	75.6	79.2	88.4	95.4
.125	72.3	73.9	76.6	76.9	76.6	77.6	78.9	82.2	90.1	98.1
.160	75.1	78.0	79.3	80.5	79.6	79.6	80.4	85.1	91.6	100.4
.200	77.0	77.8	79.2	81.5	80.4	82.1	85.0	86.8	92.7	101.9
.250	79.5	80.4	80.9	81.7	85.2	84.4	87.9	92.7	93.5	105.0
.315	82.4	85.2	84.4	86.0	86.4	87.2	88.4	94.0	100.4	108.4
.400	87.2	87.3	86.9	87.3	86.7	87.9	93.2	95.8	103.6	111.0
.500	90.1	89.1	88.4	87.4	88.2	91.9	96.6	101.1	103.7	113.4
.630	86.5	87.1	88.0	90.2	91.8	94.5	97.8	102.7	108.2	116.0
.800	94.7	91.9	91.6	93.2	93.8	95.6	100.7	106.3	110.2	118.7
1.00	91.7	92.9	95.4	97.5	97.9	97.9	102.0	108.1	112.1	120.7
1.25	92.8	91.6	92.5	96.1	98.7	99.9	104.1	110.3	113.2	122.2
1.60	92.3	94.9	94.2	97.8	99.3	101.7	105.7	111.3	113.6	123.1
2.00	94.8	96.5	98.5	99.1	100.5	102.8	106.7	112.2	114.6	124.2
2.50	95.3	95.5	96.8	99.7	100.9	102.9	106.5	111.9	114.0	123.9
3.15	94.4	95.7	96.4	98.0	100.8	102.7	106.5	110.4	113.0	122.9
4.00	94.4	95.3	96.0	99.1	101.4	103.5	105.9	109.6	111.7	122.4
5.00	94.3	95.3	96.0	98.9	101.2	103.6	105.8	107.2	109.9	121.3
6.30	93.3	94.6	95.9	98.3	100.7	103.4	104.9	105.8	107.7	120.3
8.00	93.8	94.2	95.6	98.2	100.9	103.7	104.5	104.9	105.6	119.8
10.0	93.4	94.2	95.1	97.6	100.4	102.7	103.2	103.3	103.3	118.6
12.5	92.4	93.2	94.6	97.0	99.4	101.6	101.8	101.4	101.1	117.3
16.0	91.9	92.6	93.7	96.6	99.0	101.0	100.7	99.9	99.3	116.4
20.0	91.3	91.7	92.9	95.5	97.7	99.6	99.1	97.7	97.0	115.0
25.0	90.5	91.4	92.7	95.1	97.8	98.8	97.9	97.0	96.2	114.4
31.5	90.1	91.2	92.4	94.6	97.1	97.9	96.9	95.7	94.7	113.6
40.0	90.6	91.4	92.8	94.9	96.9	97.8	96.3	95.2	94.2	113.5
50.0	90.8	91.5	93.0	95.6	97.0	97.4	96.3	94.7	93.8	113.5
63.0	91.1	92.1	93.5	95.4	97.1	97.5	96.1	94.8	94.0	113.6
80.0	91.9	92.5	93.7	96.0	97.5	97.6	96.3	94.9	94.7	113.8
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	106.4	107.1	108.2	110.5	112.6	114.5	116.6	120.4	123.0	OAPWL = 133.4

V_∞ =	31	fps
T_a =	97	°F
RH_a =	15	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3609 CONDITION 3609

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.30	0.0		1.30	0.0	THRUST,IDL	LB	32.6	0.0	N	145.0	0.0
TEMP		(R)	1075.0	0.0	(K)	597.2	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.040	0.0	KG/M3	0.640	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		972.0	0.0	M/S	296.3	0.0	W (MODEL)	LB/S	1.1	0.0	KG/S	0.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.1	0.0	62.7	65.8	66.1	65.2	66.8	70.2	75.2	85.0
.125	65.3	66.8	69.6	70.0	69.1	69.8	70.9	73.9	78.8	89.3
.160	67.2	70.4	71.5	72.3	71.5	72.2	73.1	76.9	81.4	91.8
.200	69.7	70.6	70.9	72.7	72.2	74.5	77.1	78.7	82.6	93.4
.250	71.4	72.8	73.5	73.4	76.1	75.8	79.4	83.9	83.7	96.2
.315	73.7	75.8	76.1	77.6	78.2	78.8	80.5	84.3	91.0	99.3
.400	77.8	78.7	78.4	79.1	78.8	80.2	84.3	86.7	93.2	101.6
.500	80.5	80.3	79.7	79.4	80.1	82.8	87.7	90.9	93.0	103.7
.630	78.0	78.3	79.3	82.0	83.4	85.7	88.5	92.8	97.7	106.2
.800	84.3	81.6	81.7	83.5	85.2	86.9	90.8	95.2	98.8	108.0
1.00	82.5	82.5	84.5	86.6	87.7	88.4	91.0	96.2	100.3	109.3
1.25	82.3	82.1	82.9	85.3	88.0	89.4	91.9	96.9	100.2	109.6
1.60	81.8	83.6	83.6	86.6	88.3	90.0	92.3	96.3	99.0	109.3
2.00	83.3	84.3	85.7	87.2	89.2	90.8	93.0	95.9	97.8	109.3
2.50	83.3	83.9	84.8	87.4	89.3	90.9	92.9	95.4	95.5	108.8
3.15	83.0	84.1	85.2	87.0	89.4	90.8	93.0	94.3	93.4	108.2
4.00	83.4	84.0	84.6	87.3	89.6	91.0	92.0	93.6	91.7	107.8
5.00	83.3	84.2	84.7	87.5	89.4	90.6	91.9	91.6	90.1	107.2
6.30	82.1	83.1	84.1	86.5	88.3	89.8	90.6	90.2	88.2	106.1
8.00	82.3	82.5	83.6	85.9	88.1	89.6	89.6	89.1	86.5	105.5
10.0	81.6	82.3	82.8	85.0	87.2	88.4	88.2	87.4	84.6	104.3
12.5	80.4	81.0	82.0	84.0	86.0	86.9	86.6	85.2	82.9	102.9
16.0	79.7	80.2	81.0	83.3	85.2	85.8	85.0	83.6	81.2	101.8
20.0	78.8	79.3	80.0	82.0	83.7	84.5	83.3	81.6	78.9	100.4
25.0	78.2	78.8	79.7	81.5	83.7	83.6	82.1	80.5	77.6	99.8
31.5	77.7	78.3	79.0	80.7	82.7	82.4	81.1	79.1	75.9	98.8
40.0	77.8	78.3	79.2	80.7	82.3	82.1	80.2	78.3	75.4	98.5
50.0	78.0	78.2	79.1	81.1	82.1	81.8	80.2	77.8	75.0	98.5
63.0	77.8	78.2	79.2	80.5	81.9	81.6	79.6	77.7	75.2	98.2
80.0	78.1	77.8	78.7	80.4	81.7	81.4	79.4	77.4	76.0	97.9
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 119.8
OSPL	95.1	95.6	96.4	98.5	100.4	101.7	103.2	105.8	108.1	

V_∞ =	31	fps
T_a =	89	°F
RH_a =	14	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG 1D VT=32 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3622 CONDITION 3622

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			3.23	0.0		3.23	0.0	THRUST,IDL	LB		176.6	0.0	N	785.7	0.0
TEMP	(R)		1067.0	0.0	(K)	592.8	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3	0.051	0.0		KG/M3	0.822	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1915.0	0.0	M/S	583.7	0.0	W (MODEL)	LB/S		3.0	0.0	KG/S	1.3	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.2	0.0	81.3	83.8	83.9	83.2	84.9	89.6	94.4	103.7
.125	81.3	82.4	85.0	85.4	84.8	85.7	87.5	92.1	97.1	106.3
.160	84.4	86.8	87.3	88.3	87.7	87.9	88.1	93.9	99.8	108.7
.200	85.4	86.8	88.2	90.3	89.4	91.5	93.4	95.1	101.3	110.6
.250	88.7	89.0	90.0	92.2	94.0	92.5	97.1	101.3	101.9	113.8
.315	93.6	96.6	94.4	96.1	95.3	96.8	96.1	103.7	109.9	118.0
.400	98.4	98.1	97.4	97.3	97.0	96.0	102.3	104.6	115.0	121.5
.500	100.3	99.4	97.4	96.6	97.7	101.0	104.2	110.4	114.1	122.9
.630	95.6	96.2	97.3	99.2	100.4	102.9	106.9	112.1	117.9	125.4
.800	103.1	100.5	100.1	101.6	101.8	103.1	109.0	116.2	121.0	128.6
1.00	100.6	102.9	103.7	104.9	104.7	105.0	111.1	118.6	122.4	130.6
1.25	101.8	101.7	101.3	105.1	107.2	108.2	113.1	120.8	123.3	132.2
1.60	101.7	103.2	102.4	105.7	107.9	109.5	115.4	122.3	123.6	133.3
2.00	104.8	106.4	107.7	109.1	109.9	111.1	117.8	123.9	124.4	135.0
2.50	106.4	106.0	106.3	109.6	109.9	111.7	118.5	124.9	124.6	135.6
3.15	107.3	107.6	106.8	107.6	109.9	112.3	118.9	124.6	123.3	135.2
4.00	114.2	111.3	109.2	110.7	111.6	113.7	116.6	125.1	122.5	135.8
5.00	118.9	116.2	111.6	111.0	111.7	114.0	118.5	123.5	120.4	135.5
6.30	117.2	117.8	116.0	113.3	112.3	114.1	117.8	122.6	118.7	135.5
8.00	114.9	115.6	116.8	116.5	114.4	115.2	117.4	121.2	117.4	135.2
10.0	115.1	113.8	113.7	116.8	116.6	115.9	116.5	119.6	116.0	134.5
12.5	113.5	113.3	112.6	113.6	117.0	116.3	115.7	117.7	114.6	133.5
16.0	112.7	112.5	112.1	113.1	115.1	116.9	115.0	116.6	113.3	132.8
20.0	111.6	111.2	110.9	111.7	113.3	115.4	113.6	114.3	111.2	131.2
25.0	110.6	110.4	110.4	111.1	113.0	113.8	112.6	113.6	110.1	130.4
31.5	109.5	109.8	109.7	110.5	111.8	112.4	111.6	112.3	108.9	129.3
40.0	109.3	109.5	109.7	110.6	111.3	111.9	110.9	111.9	108.3	129.0
50.0	109.0	109.1	109.5	110.9	111.2	111.5	110.7	111.1	107.9	128.7
63.0	108.3	108.8	109.4	110.3	111.1	111.3	110.2	110.9	107.4	128.4
80.0	108.0	108.2	108.9	110.3	110.9	111.3	110.4	110.9	107.8	128.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	125.4	124.8	124.1	124.8	125.5	126.4	128.9	133.9	133.5	

OAPWL = 146.4

V_∞ =	32	fps
T_a =	126	°F
RH_a =	0	%
P_a =	14.51	psia

STAND XARF RIG ID VT=32 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3625 CONDITION 3625

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	*	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			3.23	0.0		3.23	0.0	THRUST,IDL	LB	174.3	0.0	N	775.2	0.0
TEMP	(R)		1260.0	0.0	(K)	700.0	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.043	0.0	KG/M3	0.690	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		2086.0	0.0	M/S	635.8	0.0	W (MODEL)	LB/S	2.7	0.0	KG/S	1.2	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.5	0.0	81.9	84.7	84.4	83.6	85.5	92.4	96.0	105.2
.125	81.9	83.1	85.7	86.2	85.4	86.1	86.2	94.3	98.5	107.6
.160	85.4	87.8	88.4	89.1	86.1	86.8	89.4	96.4	101.1	110.1
.200	86.2	87.6	89.0	91.1	90.0	92.2	94.4	97.0	102.7	111.8
.250	90.0	89.9	90.4	92.5	94.4	93.0	98.5	102.4	103.2	114.8
.315	94.1	97.1	94.8	96.8	95.8	97.7	97.0	105.2	110.7	118.9
.400	99.1	98.9	98.1	97.9	98.0	97.2	103.5	106.2	114.9	122.0
.500	101.0	100.0	98.2	97.3	98.2	101.8	105.1	111.5	115.4	124.0
.630	96.1	97.2	98.4	100.0	101.0	103.9	106.4	113.9	119.1	126.8
.800	103.7	101.7	101.5	102.8	103.0	104.2	110.7	117.5	122.1	129.9
1.00	101.6	103.8	104.9	106.1	105.9	106.8	113.2	120.0	123.3	131.8
1.25	103.2	102.9	102.7	106.3	108.6	110.1	115.3	122.2	124.2	133.5
1.60	103.3	104.6	103.9	107.2	109.4	111.4	117.8	123.8	124.3	134.8
2.00	105.8	106.1	109.3	110.8	111.7	113.3	120.6	125.3	125.1	136.5
2.50	107.7	107.6	107.9	111.1	111.9	114.2	121.7	126.4	125.4	137.4
3.15	108.2	108.7	108.7	109.4	112.1	114.6	122.3	126.1	124.1	137.1
4.00	113.8	111.4	110.1	111.8	113.6	116.3	122.6	126.7	123.4	137.7
5.00	119.2	115.5	111.9	112.2	113.8	116.6	122.7	124.9	121.3	137.3
6.30	118.6	118.6	115.6	113.8	114.2	116.5	122.2	123.9	119.8	137.2
8.00	116.3	117.4	118.2	116.8	116.0	117.5	121.9	122.7	118.6	137.2
10.0	115.9	114.8	115.7	118.5	117.5	117.6	120.7	121.3	117.2	136.4
12.5	114.9	114.5	113.6	115.9	118.5	117.6	119.5	119.7	115.8	135.4
16.0	113.9	113.6	113.5	114.7	118.0	117.7	118.3	118.4	114.5	134.6
20.0	113.0	112.6	112.2	113.8	115.8	116.6	116.8	116.3	112.5	133.1
25.0	111.8	111.7	111.9	112.8	115.2	115.4	114.6	115.5	111.5	132.3
31.5	110.6	111.0	111.1	112.1	114.1	113.9	114.8	114.2	110.1	131.1
40.0	110.5	110.7	111.0	112.0	113.4	113.5	114.1	113.7	109.6	130.8
50.0	110.1	110.3	110.8	112.3	113.2	113.2	11..9	112.8	109.0	130.5
63.0	109.5	110.1	110.7	111.7	113.1	112.7	113.5	112.7	108.7	130.2
80.0	109.1	109.3	110.1	111.3	112.6	112.4	113.5	112.4	108.8	129.8
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OASPL	126.3	125.8	125.3	126.2	127.4	128.2	132.4	135.4	134.4	OAPWL = 148.2

V_∞ =	32	fps
T_a =	136	°F
RH_a =	1	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=32 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3628 CONDITION 3628

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB		99.9	0.0	N	444.6	0.0
TEMP	(R)	1260.0	0.0	(K)	700.0	0.0		THRUST,MEA	LB	0.0		N	0.0		
RHO	LB/FT3	0.040	0.0	KG/M3	0.647	0.0		AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0	
VEL	FPS	1882.0	0.0	M/S	573.6	0.0		W (MODEL)	LB/S	1.7	0.0	KG/S	0.8	0.0	

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.8	75.1	77.6	80.1	80.3	79.7	81.9	86.6	93.3	101.3
.125	78.5	79.7	82.6	82.9	82.4	83.1	85.1	89.3	95.4	104.0
.160	82.0	84.8	85.4	86.3	85.1	85.5	86.1	91.6	97.9	106.6
.200	82.9	84.0	85.8	87.7	86.5	88.7	90.9	92.7	99.0	108.1
.250	86.5	86.8	86.8	88.6	91.1	89.9	95.2	99.0	99.6	111.4
.315	90.3	93.1	90.9	92.9	92.3	93.8	94.0	101.6	107.5	115.4
.400	95.0	95.2	94.5	94.3	94.2	94.2	100.4	102.8	111.8	118.7
.500	97.3	96.3	94.8	93.6	94.7	98.5	102.4	108.3	111.6	120.6
.630	93.0	94.0	95.0	97.0	97.8	100.6	105.3	110.2	115.6	123.3
.800	100.6	98.2	98.0	99.5	99.8	101.4	107.7	114.0	118.4	126.3
1.00	98.2	100.4	101.8	103.1	103.2	104.1	110.0	116.4	119.9	128.4
1.25	99.9	99.2	99.0	103.2	105.8	107.2	112.0	118.7	120.7	130.1
1.60	99.7	101.2	100.6	104.0	106.3	108.7	114.5	120.1	120.8	131.2
2.00	102.6	104.4	105.7	107.2	108.4	110.5	117.2	121.4	121.7	132.9
2.50	103.7	103.4	103.9	107.2	108.6	111.0	118.0	122.3	121.9	133.5
3.15	103.7	104.8	104.5	105.7	108.7	111.5	116.3	122.4	121.4	133.5
4.00	104.5	105.1	105.1	107.4	109.8	112.8	118.0	123.3	121.1	134.0
5.00	106.0	105.8	105.4	107.7	110.1	113.1	118.0	122.1	120.1	133.3
6.30	110.3	107.8	106.5	107.9	110.1	113.0	117.0	121.3	118.5	132.7
8.00	113.9	111.4	108.8	108.7	110.9	113.7	116.4	120.3	117.4	132.7
10.0	112.7	112.7	111.3	110.2	111.2	113.3	115.1	118.6	115.9	132.1
12.5	110.0	109.9	111.2	111.7	111.6	112.7	114.2	117.3	114.7	131.2
16.0	109.7	109.0	108.8	111.2	112.6	112.7	113.1	116.0	113.6	130.4
20.0	109.1	108.4	108.4	109.5	112.1	112.3	111.8	114.3	111.6	129.4
25.0	108.4	108.2	108.4	109.5	111.9	112.0	111.5	113.9	110.9	129.1
31.5	108.1	108.3	108.5	109.4	111.3	111.5	111.2	113.2	110.3	128.7
40.0	108.8	108.8	109.5	110.2	111.5	111.6	111.1	113.4	110.8	129.1
50.0	109.4	109.4	110.2	111.5	112.3	112.1	112.0	114.0	111.3	129.9
63.0	109.8	110.4	111.3	112.0	113.2	113.0	112.7	114.9	112.0	130.7
80.0	110.9	111.1	112.0	113.1	114.2	114.0	114.1	116.2	113.5	131.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	121.8	121.4	121.4	122.4	123.9	125.1	128.2	132.4	131.7	OAPWL = 144.7

V_∞ =	32	fps
T_a =	124	°F
RH_a =	6	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3631 CONDITION 3631

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.82	0.0		1.82	0.0	THRUST,IDL	LB		79.0	0.0	N	351.4	0.0
TEMP	(R)	1262.0	0.0	(K)	701.1	0.0		THRUST,MEA	LB		0.0		N	0.0	
RHO	LB/FT3	0.037	0.0	KG/M3	0.594	0.0		AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS	1551.0	0.0	M/S	472.7	0.0		W (MODEL)	LB/S		1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	70.7	69.5	72.1	74.9	75.0	74.4	76.8	81.3	86.6	95.5
.125	73.9	75.6	78.3	78.5	77.7	78.3	80.5	84.5	89.4	98.9
.160	77.0	80.0	80.8	81.7	80.5	80.7	81.9	86.9	92.2	101.6
.200	78.3	79.1	80.4	82.5	81.2	83.9	86.6	88.6	93.7	103.3
.250	81.1	81.8	81.9	82.9	85.8	85.1	90.4	94.2	94.3	106.4
.315	84.3	86.7	85.2	87.1	87.2	88.5	89.6	95.9	102.1	109.9
.400	88.8	89.0	88.5	88.5	88.8	89.5	95.4	97.4	105.6	112.9
.500	91.4	90.6	89.3	88.4	90.0	93.4	96.0	102.6	105.1	114.9
.630	87.9	89.2	89.9	92.3	93.2	95.8	99.9	104.7	109.7	117.7
.800	96.0	93.5	93.0	94.4	95.1	97.3	102.8	108.2	112.0	120.6
1.00	93.7	95.6	96.8	98.2	98.4	99.2	104.5	110.4	113.8	122.6
1.25	95.2	93.6	94.0	98.1	100.6	101.8	106.4	112.6	115.0	124.3
1.60	95.1	96.3	95.8	99.3	101.6	103.2	108.3	113.8	115.5	125.4
2.00	97.4	99.2	100.4	101.1	102.8	104.6	110.1	115.0	116.7	126.8
2.50	97.7	98.3	99.6	102.0	103.3	105.1	110.0	115.6	116.8	127.1
3.15	97.6	97.9	99.6	100.4	103.4	105.2	109.7	114.5	116.5	126.4
4.00	97.4	98.4	98.7	101.5	104.1	106.3	108.9	114.0	115.8	126.0
5.00	97.0	98.1	98.8	101.3	103.9	106.4	106.7	111.6	114.4	124.9
6.30	95.8	97.4	98.5	101.0	103.4	106.2	107.6	110.2	112.5	123.8
8.00	96.1	96.7	98.1	100.7	103.9	106.5	107.2	109.1	110.3	123.1
10.0	95.7	96.8	97.6	100.5	103.5	105.8	106.2	107.3	108.1	122.0
12.5	94.7	95.6	97.1	99.6	102.5	104.5	104.7	105.3	105.7	120.5
16.0	94.3	95.3	96.4	99.3	102.0	103.9	103.6	103.6	103.9	119.5
20.0	93.6	94.3	95.6	98.1	100.9	102.7	102.0	101.3	101.5	118.1
25.0	92.8	94.1	95.3	97.8	100.9	101.6	101.0	100.4	100.1	117.4
31.5	92.5	93.8	94.7	97.2	100.0	100.5	99.7	98.9	98.6	116.3
40.0	92.5	93.5	94.9	97.1	99.4	99.9	98.8	98.1	97.8	115.9
50.0	92.5	93.3	94.8	97.4	99.2	99.2	98.3	97.5	96.9	115.5
63.0	92.3	93.3	94.9	96.9	98.9	98.8	97.6	97.1	96.1	115.1
80.0	92.6	93.1	94.4	96.9	98.5	98.5	97.4	96.5	96.4	114.8
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	108.7	109.5	110.5	112.7	115.1	116.9	119.5	123.8	125.8	OAPWL = 136.3

V_∞ =	31	fps
T_a =	105	°F
RH_a =	9	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3634 CONDITION 3634

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.31	0.0		1.31	0.0	THRUST,IDL	LB	33.6	0.0	N	149.5	0.0
TEMP	(R)		1269.0	0.0	(K)	705.0	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.034	0.0	KG/M3	0.541	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1061.0	0.0	M/S	323.4	0.0	W (MODEL)	LB/S	1.0	0.0	KG/S	0.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.7	60.6	64.2	67.3	67.9	66.5	68.4	71.7	76.1	86.5
.125	67.4	69.2	71.7	71.8	70.7	71.4	72.7	75.9	80.2	91.1
.160	69.0	72.2	73.2	74.0	73.2	73.6	74.9	78.6	83.1	93.5
.200	71.7	72.4	72.5	74.5	74.0	76.7	79.3	80.7	84.6	95.4
.250	73.4	74.6	75.0	74.9	77.6	77.6	81.7	85.8	85.9	98.1
.315	76.0	77.4	77.4	78.5	79.2	80.3	82.3	86.7	93.0	101.2
.400	79.9	80.5	79.9	80.3	80.6	82.0	87.6	89.1	96.3	104.2
.500	82.2	81.6	80.6	80.5	81.8	85.1	89.8	93.3	95.4	105.8
.630	79.6	80.5	81.2	83.7	85.0	87.4	91.2	95.4	99.9	108.4
.800	86.1	83.3	83.6	85.4	87.4	89.4	93.6	97.9	101.2	110.5
1.00	84.6	85.5	86.3	88.5	89.4	90.4	94.1	99.2	102.8	111.9
1.25	84.6	84.3	85.0	88.1	90.5	91.9	95.0	100.4	103.1	112.6
1.60	84.6	86.1	86.1	89.3	91.1	92.9	95.7	99.9	102.4	112.6
2.00	86.3	87.1	88.3	89.9	91.8	93.4	96.6	99.3	101.3	112.5
2.50	85.8	86.4	87.2	89.8	91.8	93.5	96.1	98.2	96.4	111.6
3.15	85.6	86.5	87.5	89.6	92.0	93.5	95.9	96.8	95.9	110.9
4.00	85.9	86.5	87.1	89.6	92.3	93.9	95.0	95.9	93.8	110.4
5.00	85.6	86.7	87.3	90.2	92.2	93.6	94.5	93.9	92.0	109.8
6.30	84.5	85.7	86.7	89.3	91.3	92.9	93.4	92.4	90.0	108.8
8.00	84.6	85.0	86.2	88.5	91.1	92.6	92.2	91.1	88.2	108.2
10.0	83.7	84.6	85.3	87.7	90.0	91.1	90.6	89.3	86.2	106.8
12.5	82.2	83.2	84.2	86.5	88.6	89.6	88.6	86.7	84.3	105.2
16.0	81.4	82.3	82.9	85.5	87.5	88.4	87.1	84.8	82.4	103.9
20.0	80.0	80.7	81.5	83.5	85.5	86.4	84.6	82.3	79.3	101.9
25.0	78.7	79.7	80.4	82.5	84.8	84.7	82.9	80.9	77.7	100.7
31.5	77.6	78.7	79.5	81.3	83.4	83.1	81.3	78.9	75.5	99.2
40.0	77.1	77.6	78.8	80.4	82.0	81.8	79.7	77.1	74.0	98.1
50.0	76.2	76.8	77.9	80.0	81.1	80.5	78.5	75.8	73.0	97.2
63.0	75.5	76.1	77.3	78.9	80.4	79.5	77.2	74.9	72.5	96.2
80.0	75.2	75.3	76.4	78.3	79.4	78.7	76.8	74.6	73.1	95.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	97.1	97.7	98.4	100.7	102.8	104.2	106.1	108.7	110.9	

OAPWL = 122.4

V_∞ =	31	fps
T_a =	87	°F
RH_a =	14	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3635 CONDITION 3635

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			3.24	0.0		3.24	0.0	THRUST,IDL	LB		164.7	0.0	N	732.4	0.0
TEMP	(R)		714.0	0.0	(K)	396.7	0.0	THRUST,MEA	LB		0.0		N	0.0	
RHO	LB/FT3		0.078	0.0	KG/M3	1.244	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1564.0	0.0	M/S	476.7	0.0	W (MODEL)	LB/S		3.4	0.0	KG/S	1.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	0.0	0.0	81.2	83.7	83.0	82.2	84.0	87.2	94.5	102.9
.125	0.0	81.5	83.6	84.1	83.7	85.0	86.3	88.9	96.1	104.7
.160	82.2	85.0	85.8	87.4	86.9	87.3	87.3	90.7	98.5	107.1
.200	84.5	86.1	87.1	89.7	88.3	90.3	93.2	93.6	99.1	109.3
.250	86.9	87.9	89.2	90.9	93.4	92.9	93.0	98.7	100.5	111.9
.315	91.6	94.9	93.6	95.0	94.6	95.0	95.7	99.6	107.7	115.8
.400	96.6	95.7	95.1	95.0	94.0	94.6	98.4	100.8	111.0	118.0
.500	98.1	97.5	96.1	94.9	96.0	100.1	103.0	107.2	110.7	120.3
.630	95.1	95.5	95.9	97.8	98.7	100.6	102.7	107.8	115.5	122.5
.800	101.6	98.5	98.5	99.8	99.7	101.6	105.6	112.2	117.7	125.3
1.00	99.1	100.7	101.4	102.8	102.9	102.5	105.6	113.9	119.6	127.0
1.25	99.5	99.0	99.2	101.5	103.5	104.1	107.9	115.9	120.9	128.4
1.60	98.5	101.0	100.0	102.5	104.9	106.6	109.8	117.0	121.8	129.5
2.00	101.3	102.2	104.3	105.5	105.8	107.3	110.9	118.1	122.3	130.5
2.50	103.3	103.0	102.7	105.9	106.9	108.2	110.7	118.1	121.9	130.4
3.15	109.3	107.6	106.0	106.8	108.5	109.0	112.1	117.4	121.6	130.6
4.00	117.6	114.1	110.3	110.6	109.4	109.5	111.5	116.8	120.6	132.0
5.00	118.6	118.9	115.2	111.8	110.0	110.0	111.8	115.1	119.6	133.6
6.30	114.8	116.3	117.2	116.3	112.1	110.9	112.0	114.2	117.8	133.4
8.00	114.9	113.6	114.3	117.1	115.8	113.8	112.6	114.1	116.1	133.2
10.0	114.9	114.4	112.7	113.6	116.5	116.4	113.6	113.3	114.7	133.0
12.5	113.6	113.3	112.8	112.9	113.6	118.4	114.2	112.6	113.4	132.6
16.0	113.1	113.1	112.3	112.7	112.9	116.9	114.4	112.0	112.3	132.0
20.0	111.8	111.8	111.4	111.5	112.0	113.0	112.9	110.6	110.5	130.2
25.0	110.9	111.2	111.0	111.2	111.8	112.4	111.0	109.9	109.5	129.6
31.5	110.1	110.8	110.7	111.2	111.4	111.9	110.1	108.8	108.4	129.0
40.0	109.9	110.5	110.8	111.1	111.3	111.4	109.7	108.1	107.9	128.8
50.0	109.8	110.2	111.0	111.9	111.7	111.8	109.8	108.1	107.8	129.1
63.0	109.7	110.6	111.5	112.0	112.6	112.5	110.4	109.0	108.2	129.6
80.0	110.6	111.1	112.0	112.9	113.3	113.3	111.6	110.1	109.7	130.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OAPWL =										144.2
OSPL	125.6	125.3	124.5	124.9	124.8	125.7	124.7	127.6	131.5	

V_∞ =	30	fps
T_a =	86	°F
RH_a =	38	%
P_a =	14.59	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3640 CONDITION 3640

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB	117.9	0.0	N	524.3	0.0
TEMP	(R)		713.0	0.0	(K)	396.1	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.073	0.0	KG/M3	1.163	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1411.0	0.0	M/S	430.1	0.0	W (MODEL)	LB/S	2.7	0.0	KG/S	1.2	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	75.8	74.7	77.1	79.5	78.9	78.1	79.9	83.2	89.2	98.6
.125	75.7	77.5	79.9	80.2	80.0	81.4	82.8	85.2	91.5	100.8
.160	78.4	81.1	82.3	84.0	83.5	83.4	84.1	87.3	94.1	103.3
.200	80.7	82.4	83.3	85.9	84.4	85.9	89.2	90.0	94.3	105.2
.250	82.8	84.3	85.3	86.5	89.3	89.1	89.5	94.8	95.9	107.9
.315	87.0	90.0	89.1	90.5	90.4	90.6	91.6	95.6	103.9	111.7
.400	92.0	91.4	90.8	91.0	89.9	90.9	94.9	97.5	106.5	113.8
.500	93.6	92.8	91.7	90.7	91.8	95.8	99.2	103.3	106.2	116.1
.630	90.9	91.3	91.8	93.8	94.6	96.5	98.7	104.5	111.4	118.6
.800	97.3	94.2	94.5	96.1	95.9	97.8	101.9	107.9	113.2	121.0
1.00	94.7	95.9	97.1	98.7	99.2	99.3	101.9	109.6	115.2	122.8
1.25	95.2	94.3	95.0	97.5	99.7	100.6	104.1	111.5	116.2	124.0
1.60	94.3	96.9	96.1	98.7	100.8	103.0	106.0	112.1	117.0	124.9
2.00	96.6	97.4	99.9	100.8	101.6	103.3	107.0	112.8	117.1	125.5
2.50	97.2	97.7	98.1	101.3	102.4	103.8	106.6	112.6	116.3	125.1
3.15	97.3	98.0	98.8	99.9	102.2	103.4	107.3	111.5	115.4	124.4
4.00	101.8	100.4	99.6	101.8	103.1	104.8	107.0	110.8	115.1	124.5
5.00	108.3	104.6	102.3	103.1	104.4	105.6	107.5	109.4	112.9	124.7
6.30	112.2	110.2	106.7	105.0	104.4	105.3	107.1	108.2	111.3	126.3
8.00	112.1	111.2	110.4	107.8	105.8	106.2	106.8	107.7	109.2	127.3
10.0	109.4	109.5	109.8	109.8	107.9	107.4	106.8	106.8	107.4	126.9
12.5	108.8	107.8	106.9	108.6	109.3	109.1	106.8	105.5	105.7	126.3
16.0	108.1	107.5	106.7	106.7	108.2	110.3	107.0	104.7	104.1	125.9
20.0	107.8	106.6	105.9	106.1	106.3	108.9	106.5	103.6	102.0	124.8
25.0	106.0	105.9	105.3	105.4	106.0	106.3	105.2	103.1	101.1	123.8
31.5	105.1	105.1	104.8	105.0	105.2	105.1	103.4	101.4	99.6	122.8
40.0	104.7	104.7	105.0	105.0	105.0	104.5	102.5	100.3	98.8	122.5
50.0	104.2	104.3	104.7	105.5	105.0	104.4	102.1	99.8	98.1	122.4
63.0	103.9	104.3	105.0	105.4	105.4	104.9	102.1	100.2	98.0	122.5
80.0	104.2	104.5	105.4	106.1	106.0	105.3	103.1	100.9	98.8	123.0
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	119.6	118.8	118.1	118.2	118.3	118.9	119.0	122.0	126.0	OAPWL = 138.0

V_∞ =	30	fps
T_a =	77	°F
RH_a =	51	%
P_a =	14.59	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3641 CONDITION 3641

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.03	0.0		2.03	0.0	THRUST,IDL	LB	84.8	0.0	N	377.3	0.0
TEMP	(R)		708.0	0.0	(K)	393.3	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.069	0.0	KG/M3	1.102	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1247.0	0.0	M/S	380.1	0.0	W (MODEL)	LB/S	2.2	0.0	KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	70.9	70.0	72.3	74.8	74.3	74.0	76.1	79.2	85.3	94.4
.125	71.3	73.4	75.9	76.3	76.1	77.9	78.5	81.2	87.3	96.7
.160	73.8	77.1	78.4	80.0	79.6	79.4	79.6	83.2	89.7	99.2
.200	76.4	78.2	79.3	82.0	80.6	81.8	85.0	85.7	90.2	101.1
.250	78.5	80.2	81.3	81.9	84.8	85.2	85.7	90.8	91.9	103.8
.315	82.3	85.4	84.9	86.0	86.1	86.5	87.6	91.4	99.4	107.4
.400	86.8	86.7	86.2	86.6	85.7	86.6	90.9	93.4	101.9	109.4
.500	89.0	88.3	87.4	86.4	87.5	91.4	95.1	98.7	101.4	111.6
.630	86.0	86.6	87.3	89.7	90.8	92.2	94.9	99.8	106.8	114.1
.800	92.7	89.4	90.1	91.4	91.9	93.9	97.6	103.1	108.1	116.2
1.00	90.2	91.2	92.6	94.2	95.0	95.3	97.5	104.5	110.0	117.8
1.25	90.6	89.8	90.7	92.9	94.9	96.1	99.3	106.1	110.9	118.8
1.60	89.7	92.2	91.6	94.2	96.1	98.3	101.1	106.2	111.2	119.4
2.00	91.9	92.6	94.7	95.8	96.8	98.7	102.1	106.4	110.8	119.6
2.50	92.0	92.7	93.1	95.9	97.2	98.9	101.8	106.0	109.1	118.9
3.15	91.6	92.6	93.6	95.1	97.2	98.8	102.2	105.2	107.0	118.1
4.00	92.0	92.6	93.3	95.7	97.6	99.5	101.9	104.7	104.9	117.7
5.00	92.4	93.2	93.7	96.1	97.7	99.9	102.1	103.4	103.3	117.3
6.30	92.3	92.9	93.8	95.8	97.4	99.4	101.7	102.2	101.7	116.7
8.00	93.9	93.1	94.0	95.9	97.8	99.9	101.2	101.7	100.0	116.6
10.0	96.9	95.4	94.9	95.9	97.4	99.4	100.5	100.4	98.4	116.2
12.5	99.3	97.7	95.7	95.9	97.0	98.5	99.5	98.8	97.0	116.0
16.0	97.8	98.1	97.1	96.7	97.0	98.2	98.4	97.6	95.7	115.8
20.0	95.4	95.5	95.7	96.6	96.9	97.4	97.2	95.7	93.7	114.6
25.0	94.8	94.5	94.3	95.3	97.1	97.0	96.3	94.9	92.7	113.9
31.5	93.4	93.9	93.8	94.4	95.7	96.6	95.5	93.8	91.4	113.0
40.0	92.7	93.3	93.5	94.3	95.1	95.7	94.4	92.6	90.7	112.4
50.0	91.9	92.4	93.2	94.5	94.8	95.1	93.9	92.0	89.7	112.0
63.0	91.6	92.4	93.2	94.1	95.0	95.2	93.7	92.2	89.8	111.9
80.0	92.0	92.6	93.7	94.8	95.5	95.4	94.2	92.3	90.8	112.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	107.3	107.2	107.3	108.6	109.8	111.2	113.0	116.0	119.4	OAPWL = 130.1

V_∞ =	30	fps
T_a =	77	°F
RH_a =	40	%
P_a =	14.59	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=21 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3646 CONDITION 3646

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.82	0.0		1.82	0.0	THRUST,IDL	LB	66.2	0.0	N	294.3	0.0
TEMP	(R)		714.0	0.0	(K)	395.6	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066		0.0	KG/M3	1.063	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1158.0		0.0	M/S	353.0	0.0	W (MODEL)	LB/S	1.8	0.0	KG/S	0.8	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.9	67.7	70.4	73.1	72.4	71.6	73.9	77.3	84.4	92.8
.125	69.4	71.4	73.8	74.4	74.2	75.6	76.6	79.3	86.1	95.0
.160	71.9	75.1	76.5	78.4	77.8	77.5	78.0	81.6	88.2	97.5
.200	74.5	76.1	77.1	79.9	78.7	79.6	82.9	83.9	88.7	99.2
.250	76.2	78.1	79.2	79.5	82.2	82.6	85.3	88.4	90.1	101.5
.315	79.8	82.6	82.5	83.6	83.8	83.8	85.8	89.2	97.5	105.2
.400	84.5	84.7	84.5	84.6	83.6	84.4	88.8	91.4	99.9	107.3
.500	86.6	86.3	85.3	84.3	85.2	88.9	93.0	96.3	99.3	109.3
.630	83.6	84.5	85.2	87.4	88.6	90.1	92.9	98.1	104.6	112.0
.800	90.4	87.2	87.7	89.4	89.7	91.8	95.7	100.9	105.7	114.0
1.00	87.9	88.7	90.1	91.9	92.5	93.0	95.4	102.2	107.5	115.4
1.25	88.0	87.4	88.5	90.6	92.8	94.1	97.1	103.4	108.3	116.2
1.60	87.3	89.7	89.2	92.0	93.5	95.8	98.4	103.4	108.3	116.6
2.00	89.2	90.0	91.8	93.2	94.4	96.1	99.4	103.5	107.3	116.6
2.50	89.1	90.0	90.5	93.1	94.7	96.5	99.2	103.0	105.3	115.9
3.15	88.8	90.0	91.2	92.8	94.7	96.5	99.5	102.1	103.1	115.2
4.00	89.5	90.0	90.8	93.1	95.0	97.0	99.3	101.7	101.2	114.9
5.00	89.8	90.9	91.2	93.8	95.4	97.2	99.5	100.6	99.9	114.6
6.30	89.3	90.3	91.4	93.4	95.0	97.0	98.8	99.2	98.5	113.9
8.00	89.9	90.0	91.0	93.2	95.1	97.1	98.2	98.6	96.6	113.6
10.0	89.6	90.3	90.7	92.7	94.6	96.2	97.3	97.3	95.0	112.7
12.5	89.2	89.6	90.2	92.4	93.9	95.5	96.3	95.5	93.7	111.8
16.0	88.8	89.3	89.7	91.7	93.4	94.9	95.2	94.1	92.3	111.0
20.0	87.5	88.1	88.8	90.4	92.3	93.4	93.6	92.2	90.3	109.6
25.0	86.8	87.5	88.1	89.7	91.9	92.5	92.3	91.1	89.2	108.8
31.5	86.0	86.7	87.2	89.1	90.7	91.7	91.2	89.6	87.7	107.7
40.0	85.7	86.2	87.1	88.5	90.1	90.7	89.9	88.3	86.8	107.0
50.0	85.2	85.7	86.6	88.6	89.4	90.1	89.2	87.4	85.6	106.4
63.0	84.8	85.6	86.7	88.1	89.4	89.8	88.5	87.4	85.3	106.2
80.0	85.3	85.9	87.1	88.5	89.5	89.8	88.7	87.3	85.7	106.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	101.9	102.4	103.2	105.1	106.6	108.2	110.2	113.1	116.4	

V_∞ =	21	fps
T_a =	74	°F
RH_a =	59	%
P_a =	14.59	psia

OAPWL = 127.0

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3647 CONDITION 3647

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.54	0.0		1.54	0.0	THRUST,IDL	LB	54.6	0.0	N	242.9	0.0
TEMP	(R)	713.0	0.0	(K)	396.1	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.0	KG/M3	1.014	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	999.0	0.0	M/S	304.5	0.0	W (MODEL)	LB/S	1.8	0.0	KG/S	0.8	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	63.7	63.1	66.1	68.6	68.0	67.2	69.3	72.5	82.5	89.5
.125	65.2	67.4	69.9	70.6	70.1	71.3	72.4	74.9	83.3	91.4
.160	67.5	71.1	72.5	74.1	73.7	73.8	74.1	77.5	85.1	93.8
.200	70.3	72.1	73.0	75.7	74.8	75.9	76.9	80.0	85.0	95.3
.250	72.2	74.0	75.2	75.6	78.1	78.3	79.4	84.3	86.0	97.4
.315	75.1	77.8	78.2	79.4	79.5	79.8	81.0	84.8	92.6	100.6
.400	79.7	80.0	79.9	80.3	79.7	80.4	84.6	87.0	95.7	103.1
.500	81.7	81.4	80.7	80.2	80.9	84.4	88.2	91.1	94.1	104.4
.630	78.5	79.5	80.7	82.9	83.9	85.6	88.3	92.8	98.9	106.7
.800	84.9	82.2	82.7	84.4	85.3	87.3	90.6	95.0	99.7	108.3
1.00	82.8	83.3	84.8	86.6	87.7	88.3	90.2	95.9	101.0	109.4
1.25	82.7	82.5	83.5	85.6	87.8	89.3	91.5	96.8	101.0	109.8
1.60	82.1	83.9	84.2	86.8	88.6	90.3	92.6	96.5	100.5	109.9
2.00	83.6	84.6	86.4	87.9	89.6	91.0	93.8	96.7	99.1	110.1
2.50	83.8	85.0	85.6	88.2	89.8	91.4	93.6	96.5	97.4	109.8
3.15	83.9	85.1	86.4	88.0	89.8	91.2	93.8	95.8	95.7	109.3
4.00	84.3	85.1	85.9	88.3	90.0	91.7	93.3	95.3	94.2	109.0
5.00	84.6	85.7	86.2	88.7	90.2	91.8	93.2	94.0	92.9	108.7
6.30	83.8	85.0	86.1	88.2	89.6	91.2	92.4	92.7	91.3	107.9
8.00	84.1	84.5	85.6	87.8	89.4	91.2	91.9	92.0	89.5	107.5
10.0	83.6	84.6	85.3	87.2	88.8	90.2	91.0	90.7	88.1	106.7
12.5	82.6	83.5	84.4	86.4	87.9	89.3	89.6	88.8	86.7	105.5
16.0	82.3	83.0	83.9	86.0	87.4	88.6	88.5	87.4	85.3	104.7
20.0	81.1	82.0	82.8	84.5	86.2	87.2	87.2	85.6	83.1	103.4
25.0	80.4	81.5	82.2	83.8	85.8	86.1	85.7	84.5	81.9	102.5
31.5	79.7	80.8	81.6	83.2	84.8	85.3	84.6	83.2	80.5	101.5
40.0	79.6	80.5	81.4	82.9	84.1	84.6	83.8	82.0	79.7	101.0
50.0	79.4	80.1	81.2	83.1	83.8	84.2	83.2	81.4	78.7	100.7
63.0	79.5	80.3	81.4	82.7	83.9	84.4	82.8	81.4	78.7	100.7
80.0	80.5	81.0	82.1	83.7	84.4	84.6	83.5	81.7	80.0	101.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	96.3	97.0	97.9	99.9	101.4	102.7	104.3	106.7	109.5	OAPWL = 120.9

V_∞ =	30	fps
T_a =	73	°F
RH_a =	50	%
P_a =	14.59	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=30 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3652 CONDITION 3652

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.31	0.0		1.31	0.0	THRUST,IDL	LB		33.5	0.0	N	149.2	0.0
TEMP	(K)		715.0	0.0	(K)	397.2	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.060	0.0	KG/M3	0.965	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		794.0	0.0	M/S	242.0	0.0	W (MODEL)	LB/S		1.4	0.0	KG/S	0.6	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	0.0	0.0	60.7	63.2	62.5	61.9	64.2	67.2	70.5	81.6
.125	60.7	63.3	65.4	65.8	65.2	66.3	67.2	69.3	74.0	85.1
.160	62.2	65.9	67.3	68.8	68.4	69.1	69.3	72.2	77.1	87.8
.200	65.0	67.0	67.6	70.0	69.4	71.4	73.7	74.9	77.3	89.6
.250	66.1	67.9	70.3	69.9	72.1	72.7	73.8	78.6	79.1	91.6
.315	69.0	71.3	72.6	73.4	73.7	74.3	76.0	78.7	85.9	94.4
.400	73.1	74.0	73.9	74.6	74.6	74.9	78.8	81.3	88.8	96.8
.500	74.8	74.8	74.5	74.6	75.5	78.2	81.7	84.1	86.6	97.6
.630	72.1	73.5	74.7	77.1	78.1	79.6	82.0	85.9	91.1	99.8
.800	77.6	75.4	76.4	78.1	79.2	80.9	83.5	87.3	90.9	100.7
1.00	75.8	76.0	77.5	79.5	80.4	81.7	82.9	87.5	91.4	101.1
1.25	75.7	76.0	77.2	79.2	80.9	82.3	83.7	87.9	90.7	101.2
1.60	75.8	77.1	77.9	80.0	81.6	83.3	84.9	87.6	90.1	101.5
2.00	77.0	77.8	79.3	80.8	82.3	83.7	85.9	87.8	89.2	101.9
2.50	76.7	77.8	78.8	80.9	82.6	83.7	85.4	87.6	87.7	101.5
3.15	76.8	77.8	79.3	81.0	82.3	83.6	85.4	86.8	86.3	101.1
4.00	77.2	77.7	78.6	80.8	82.5	83.6	84.6	86.3	84.5	100.7
5.00	77.5	78.2	78.9	81.1	82.3	83.5	84.5	85.1	83.1	100.4
6.30	76.7	77.4	78.6	80.6	81.6	82.7	83.5	83.5	81.8	99.5
8.00	76.9	76.8	78.0	80.0	81.4	82.6	82.8	82.8	79.9	99.0
10.0	76.1	76.9	77.7	79.2	80.6	81.5	81.9	81.5	78.6	98.1
12.5	75.3	75.8	76.7	78.6	79.8	80.7	80.7	79.9	77.1	97.1
16.0	74.8	75.4	76.2	78.1	79.3	80.0	79.7	78.5	75.8	96.4
20.0	73.5	74.2	75.1	76.8	78.1	78.7	78.3	76.7	73.7	95.1
25.0	72.8	73.7	74.5	75.9	77.7	77.7	77.2	75.9	72.3	94.3
31.5	72.2	73.0	73.7	75.4	76.7	77.1	76.2	74.5	71.0	93.4
40.0	72.0	72.5	73.6	74.8	76.1	76.2	75.3	73.4	70.1	92.8
50.0	71.9	72.2	73.4	75.2	75.6	76.2	74.9	72.9	69.5	92.6
63.0	72.3	72.6	73.8	74.8	75.9	76.4	74.7	73.3	69.8	92.7
80.0	73.8	73.4	74.7	76.0	76.6	76.9	75.6	74.1	71.7	93.6
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	89.3	89.8	90.8	92.6	93.9	95.0	96.2	98.2	100.3	

OAPWL = 112.8

V_∞ =	30	fps
T_a =	61	°F
RHa =	64	%
P_a =	14.59	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=0 TEST DATE 05/21/76 SCALE RATIO 0.0/1 RUN NUMBER 3653 CONDITION 3653

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	0.0		0.0	0.0	THRUST,IDL	LB		0.0	0.0	N	0.0	0.0
TEMP	(R)		0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB		0.0		N	0.0	
RHO	LB/FT3	0.0		0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT		0.0	0.0	SQM	0.0	0.0
VEL	FPS		0.0	0.0	M/S	0.0	0.0	W (MODEL)	LB/S		0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER IE-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	0.0	0.0	0.0	0.0	54.9	0.0	0.0	0.0	0.0	64.5
.125	0.0	0.0	0.0	0.0	54.4	0.0	0.0	0.0	0.0	64.0
.160	0.0	0.0	0.0	0.0	55.3	63.0	60.4	0.0	0.0	74.5
.200	0.0	0.0	0.0	0.0	55.9	65.8	63.3	0.0	0.0	77.1
.250	0.0	0.0	0.0	0.0	54.8	0.0	0.0	0.0	0.0	64.4
.315	0.0	0.0	0.0	0.0	54.6	61.8	0.0	0.0	0.0	71.9
.400	0.0	0.0	0.0	0.0	55.2	0.0	0.0	0.0	69.3	74.0
.500	0.0	0.0	0.0	0.0	55.0	0.0	0.0	0.0	0.0	64.6
.630	0.0	0.0	0.0	0.0	54.8	0.0	0.0	0.0	0.0	64.4
.800	0.0	0.1	0.0	0.0	54.2	0.0	0.0	0.1	0.1	63.8
1.00	0.1	0.1	0.1	0.1	54.5	0.0	0.1	0.1	0.1	64.1
1.25	0.1	0.1	0.1	0.0	54.4	0.0	0.1	0.1	0.1	64.0
1.60	0.1	0.1	0.1	0.1	54.5	0.0	0.1	0.1	0.2	64.2
2.00	0.0	0.0	0.0	0.0	54.3	0.0	0.0	0.0	0.0	64.0
2.50	0.0	0.0	0.0	0.0	53.9	0.0	0.0	0.0	0.0	63.6
3.15	0.1	0.1	0.1	0.1	53.5	0.1	0.1	0.1	0.1	63.1
4.00	0.1	0.1	0.1	0.1	54.3	0.1	0.1	0.1	0.1	63.9
5.00	0.1	0.1	0.1	0.1	53.9	0.1	0.1	0.1	0.1	63.5
6.30	0.1	0.1	0.1	0.1	54.5	0.1	0.1	0.1	0.2	64.1
8.00	0.2	0.1	0.1	0.1	55.0	0.1	0.1	0.1	0.5	64.7
10.0	0.4	0.2	0.2	0.3	54.7	0.2	0.3	0.2	0.7	64.3
12.5	0.7	0.3	0.4	0.7	55.1	0.5	0.5	0.3	1.2	64.7
16.0	1.1	0.6	0.6	1.1	55.3	0.8	0.8	0.6	1.7	64.9
20.0	1.0	1.1	0.6	1.4	55.3	0.6	0.6	0.6	1.6	64.9
25.0	2.0	1.4	1.3	1.6	56.9	1.2	1.3	1.7	2.6	66.6
31.5	2.4	1.3	1.5	1.4	56.4	1.3	1.5	1.3	2.3	66.0
40.0	2.9	2.6	2.1	2.6	57.0	1.9	1.9	1.9	3.0	66.6
50.0	4.5	4.2	3.7	4.6	58.4	2.9	3.2	3.1	4.2	68.0
63.0	64.7	6.0	5.7	6.0	63.0	64.4	4.9	64.7	5.9	78.7
80.0	68.9	66.5	67.8	67.9	66.6	68.4	67.6	68.3	67.9	85.9
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	70.3	66.5	67.8	67.9	72.0	72.2	69.5	69.8	71.7	OAPWL = 88.2

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3654 CONDITION 3654

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	100.0	100.0	M/S	30.5	30.5	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL, DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	0.0	0.0	0.0	63.2	63.6	62.4	63.3	69.2	72.9	82.4
.125	0.0	0.0	0.0	0.0	58.4	0.0	61.2	67.3	72.5	79.8
.160	0.0	0.0	0.0	0.0	58.5	64.1	62.8	65.6	69.4	79.5
.200	0.0	0.0	0.0	0.0	58.7	66.1	64.0	62.9	70.4	80.0
.250	0.0	0.0	0.0	0.0	55.0	0.0	0.0	60.3	69.9	75.5
.315	0.0	0.0	0.0	0.0	55.1	62.0	0.0	0.0	75.4	80.3
.400	0.0	0.0	0.0	0.0	55.2	0.0	0.0	0.0	84.4	88.6
.500	0.0	0.0	0.0	0.0	55.0	0.0	0.0	0.0	66.9	72.0
.630	0.0	0.0	0.0	0.0	54.8	0.0	0.0	0.0	0.0	64.4
.800	0.0	0.1	0.0	0.0	54.2	0.0	0.0	0.1	0.1	63.8
1.00	0.1	0.1	0.1	0.1	54.5	0.0	0.1	0.1	0.1	64.1
1.25	0.1	0.1	0.1	0.0	54.4	0.0	0.1	0.1	0.1	64.0
1.60	0.1	0.1	0.1	0.1	54.5	0.0	0.1	0.1	0.2	64.2
2.00	0.0	0.0	0.0	0.0	54.3	0.0	0.0	0.0	0.0	64.0
2.50	0.0	0.0	0.0	0.0	53.9	0.0	0.0	0.0	0.0	63.6
3.15	0.1	0.1	0.1	0.1	53.5	0.1	0.1	0.1	0.1	63.1
4.00	0.1	0.1	0.1	0.1	54.3	0.1	0.1	0.1	0.1	63.9
5.00	0.1	0.1	0.1	0.1	53.9	0.1	0.1	0.1	0.1	63.5
6.30	0.1	0.1	0.1	0.1	54.5	0.1	0.1	0.1	0.2	64.1
8.00	0.2	0.1	0.1	0.1	55.0	0.1	0.1	0.1	0.5	64.7
10.0	0.4	0.2	0.2	0.3	54.7	0.2	0.3	0.2	0.7	64.3
12.5	0.7	0.3	0.4	0.7	55.1	0.5	0.5	0.3	1.2	64.7
16.0	1.1	0.6	0.6	1.1	55.3	0.8	0.8	0.6	1.7	64.9
20.0	1.1	1.2	0.6	1.5	55.4	0.6	0.7	0.6	1.7	65.0
25.0	2.0	1.4	1.3	1.6	56.9	1.2	1.3	1.7	2.6	66.6
31.5	2.5	1.3	1.6	1.5	56.5	1.3	1.6	1.3	2.4	66.1
40.0	2.9	2.6	2.1	2.6	57.0	1.9	1.9	1.9	3.0	66.6
50.0	4.6	4.3	3.8	4.7	58.5	3.0	3.3	3.2	4.3	68.1
63.0	6.0	5.9	5.6	5.9	62.8	64.2	4.8	64.5	5.8	77.6
80.0	68.8	66.3	67.4	67.6	66.3	68.0	67.4	68.2	67.6	85.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
									OAPWL =	92.6
OSPL	68.8	66.3	67.4	68.9	72.7	72.8	71.2	74.7	85.9	

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3655 CONDITION 3655

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)		0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.0	0.0		KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	200.0	200.0		M/S	61.0	61.0	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.2	80.5	77.5	79.6	79.9	79.2	79.5	83.8	89.9	99.8
.125	77.6	78.5	75.1	74.9	75.6	77.0	78.6	82.3	90.3	98.3
.160	76.4	77.9	71.4	71.8	74.7	76.6	77.4	81.3	88.4	96.8
.200	76.5	77.8	72.1	72.0	73.8	75.5	76.0	79.9	90.3	97.3
.250	75.0	76.8	69.6	69.4	71.6	72.5	73.3	77.7	91.3	97.1
.315	73.0	74.6	67.6	66.6	68.8	70.6	71.3	76.3	97.5	102.0
.400	71.1	73.6	66.3	65.7	67.4	68.1	69.0	74.1	97.4	101.8
.500	70.3	72.7	65.9	64.6	65.8	66.3	67.2	71.9	84.0	90.7
.630	69.6	72.0	64.5	63.9	64.6	64.4	64.9	69.4	77.2	87.1
.800	69.2	71.6	64.8	64.2	63.7	63.3	63.6	66.9	74.4	85.9
1.00	69.7	70.7	64.8	63.8	64.0	63.3	63.1	64.9	72.0	85.2
1.25	68.8	69.7	63.7	63.5	63.4	63.1	62.4	63.7	70.3	84.2
1.60	68.0	68.7	64.0	63.5	63.5	63.1	62.7	63.2	68.9	83.7
2.00	67.5	67.6	63.3	63.1	63.2	62.7	62.9	63.1	67.8	83.0
2.50	65.7	67.2	62.0	62.0	62.1	62.0	62.1	62.7	66.6	82.2
3.15	65.0	65.6	61.9	61.6	61.8	61.7	61.9	62.2	66.3	81.4
4.00	64.6	65.6	60.9	61.2	61.8	61.7	61.5	62.5	65.4	81.1
5.00	64.4	65.3	61.6	62.3	62.6	62.2	61.8	62.4	65.7	81.4
6.30	64.1	64.4	60.7	62.2	62.1	61.7	61.6	62.5	66.4	81.0
8.00	64.1	63.2	60.3	61.3	61.8	61.5	61.3	62.8	66.3	80.6
10.0	63.2	61.7	59.8	60.4	61.0	60.6	60.7	62.0	65.3	79.7
12.5	61.9	60.8	0.4	59.5	1.5	59.7	59.9	60.9	64.6	77.6
16.0	60.4	0.7	0.7	1.2	2.1	0.9	59.8	59.8	63.2	75.7
20.0	60.1	1.2	0.6	1.5	2.3	0.6	59.4	59.5	61.2	73.1
25.0	61.3	1.5	1.4	1.7	3.5	1.3	60.5	61.2	62.9	74.5
31.5	2.6	1.4	1.7	1.6	2.8	1.4	61.0	60.8	62.2	73.2
40.0	61.8	2.7	2.2	2.7	3.3	1.9	60.9	61.3	62.5	74.7
50.0	64.1	63.4	3.8	63.4	4.6	62.3	63.4	64.3	64.5	80.4
63.0	68.4	66.4	66.4	66.7	67.1	66.4	67.3	68.7	68.3	85.4
80.0	72.2	69.3	69.8	70.1	70.5	70.0	71.5	72.2	72.4	89.0
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
										OAPWL = 108.3
OSPL	86.6	87.2	82.6	83.3	84.2	84.7	85.5	89.3	102.2	

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3662 CONDITION 3662

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP		(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS		340.0	340.0	M/S	103.6	103.6	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.1	87.3	90.3	93.1	93.5	91.2	95.4	97.1	108.8	115.2
.125	85.3	86.0	87.9	88.9	90.4	89.8	94.0	95.6	110.6	115.8
.160	84.0	85.1	84.5	86.3	89.6	89.3	92.9	94.5	104.9	111.5
.200	84.9	85.4	83.9	85.5	88.6	87.6	91.3	92.9	106.8	112.3
.250	83.4	83.4	81.3	83.5	87.3	85.5	89.0	91.6	107.4	112.4
.315	81.0	81.2	79.8	80.9	85.8	84.5	87.8	90.4	113.2	117.6
.400	78.7	77.6	77.6	79.8	84.7	82.9	86.8	89.2	109.2	113.7
.500	77.6	78.0	77.4	78.8	82.9	81.7	85.7	87.6	98.9	105.0
.630	76.6	77.2	76.3	78.0	81.1	80.0	83.8	85.9	93.1	101.3
.800	77.1	76.9	76.7	77.7	79.2	78.6	82.7	84.4	90.4	99.6
1.00	77.6	76.5	76.6	77.5	78.4	77.9	81.7	82.0	87.3	96.0
1.25	77.8	76.9	76.4	77.1	77.6	77.3	80.6	80.2	85.6	97.1
1.60	77.6	77.0	76.7	77.4	77.6	77.2	80.5	78.3	83.9	96.7
2.00	77.3	77.0	77.1	77.6	77.6	77.4	80.7	77.3	82.4	96.5
2.50	76.0	76.7	76.0	76.8	77.0	76.8	79.8	76.4	81.2	95.7
3.15	75.9	76.3	75.9	76.7	76.7	76.5	79.7	75.2	79.0	95.2
4.00	76.1	75.9	75.1	75.9	76.5	76.2	79.2	74.4	77.2	94.7
5.00	75.9	75.7	74.8	76.3	76.1	75.6	78.7	73.2	76.3	94.3
6.30	74.8	74.8	74.3	75.4	75.5	74.8	78.1	73.2	76.0	93.7
8.00	75.3	74.4	74.3	75.5	75.5	75.1	78.2	73.7	76.2	93.8
10.0	74.6	74.3	73.9	75.1	75.2	74.7	78.4	74.1	77.2	93.6
12.5	74.1	73.4	73.1	74.9	74.6	74.0	77.6	73.9	78.1	93.1
16.0	73.0	72.6	72.2	73.7	73.5	73.3	76.1	73.7	77.9	92.2
20.0	71.7	71.3	70.7	72.6	72.2	71.7	74.8	71.9	76.3	90.8
25.0	72.1	70.8	70.1	72.0	3.3	70.6	74.2	71.3	75.9	89.7
31.5	72.6	70.1	1.5	72.1	.2.6	1.3	73.2	1.3	73.9	87.4
40.0	73.6	2.5	2.0	73.1	3.1	1.9	72.7	1.9	74.6	87.2
50.0	76.7	73.8	3.6	76.2	4.4	2.8	74.9	3.0	76.6	90.8
63.0	80.7	77.2	76.2	79.6	75.5	74.9	78.1	75.2	80.0	95.9
80.0	84.7	80.4	79.5	83.6	78.8	78.4	81.7	78.5	84.0	99.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	95.2	94.6	95.1	97.2	98.6	97.4	101.3	102.8	118.0	

OAPWL = 123.2

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/20/76		-00	000000	XARF	0	3604	3604

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	79.0	77.8	80.5	82.8	82.2	80.5	82.1	85.8	90.3
125	78.5	80.1	82.7	82.8	81.4	82.2	83.4	87.5	92.9
160	80.1	83.0	83.5	85.1	84.2	83.9	84.5	89.9	95.7
200	80.9	82.4	84.0	86.6	85.1	87.8	90.5	91.3	96.5
250	83.8	85.6	86.9	88.2	90.9	90.0	92.5	97.1	97.6
315	89.2	92.4	91.1	91.9	91.8	92.2	91.6	98.6	106.2
400	93.2	91.9	91.2	92.0	91.8	92.0	98.4	100.4	109.9
500	92.9	92.4	91.8	91.1	93.3	96.8	100.4	105.7	109.0
630	92.6	91.9	92.2	94.1	95.4	98.1	101.8	107.2	113.5
800	98.4	95.8	96.6	98.2	98.0	99.2	104.6	111.0	115.5
1000	95.9	98.1	99.3	101.6	102.0	101.8	106.2	113.2	117.3
1250	97.7	97.8	97.9	101.1	103.6	104.0	108.6	115.4	118.1
1600	97.0	99.8	99.4	102.5	104.9	106.1	111.0	117.0	118.6
2000	100.2	101.6	104.4	105.0	106.1	107.5	112.5	118.4	119.3
2500	100.8	100.9	102.1	106.4	107.2	108.3	112.6	119.0	119.0
3150	101.1	102.3	103.1	104.8	107.3	108.3	113.1	118.7	119.0
4000	102.8	103.4	102.7	106.2	108.1	109.5	112.6	119.4	118.8
5000	106.3	104.2	103.4	105.6	108.0	110.0	112.5	117.7	117.5
6300	111.9	108.7	106.1	106.7	107.9	110.2	112.1	116.9	116.0
8000	113.9	112.0	109.2	107.6	108.5	110.6	111.8	116.2	114.4
10000	110.8	111.5	111.2	110.0	109.1	110.3	110.8	114.7	112.5
12500	109.1	108.2	109.1	111.2	110.6	110.5	110.2	112.6	111.0
16000	108.6	108.3	106.9	109.0	111.6	111.2	109.5	110.9	109.1
20000	107.4	107.0	106.6	107.3	109.8	110.9	108.2	108.9	106.7
25000	106.6	106.4	105.9	107.3	109.0	110.1	107.6	107.8	105.6
31500	105.4	105.7	105.3	106.3	107.8	108.0	106.5	106.4	103.9
40000	105.0	105.1	105.0	105.9	106.9	107.1	105.1	105.4	102.9
50000	104.4	104.3	104.5	106.0	106.4	106.1	104.2	104.2	101.8
63000	103.5	104.0	104.4	105.4	106.1	105.7	103.4	103.6	100.8
80000	102.7	102.9	103.4	104.7	105.5	105.0	103.1	102.7	100.5
TSPL	120.2	119.4	118.8	119.6	120.9	121.8	123.3	128.3	128.9
SSPL	120.1	119.4	118.7	119.8	120.9	121.8	123.3	128.3	128.8

V_∞ =	103	fps
T_a =	76	°F
RH_a =	10	%
P_a =	14.43	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	120.6	119.6	118.8	119.7	120.6	121.3	122.6	127.5	128.1
SSPL	120.6	119.6	118.8	119.6	120.6	121.2	122.6	127.5	128.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	120.8	119.7	118.8	119.5	120.3	120.9	122.1	126.9	127.5
SSPL	120.8	119.7	118.8	119.5	120.3	120.9	122.1	126.9	127.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3604 3604

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.7	78.2	80.6	82.5	81.6	79.6	80.6	83.4	87.2
125	79.2	80.5	82.8	82.5	80.8	81.3	81.9	84.9	89.3
160	80.8	83.4	83.6	84.8	83.6	83.0	83.0	87.0	92.1
200	81.6	82.8	84.1	86.3	84.5	86.8	89.1	89.4	92.7
250	84.5	86.0	87.0	88.0	90.3	89.1	90.9	94.9	96.4
315	89.9	92.8	91.1	91.6	91.2	91.3	90.1	95.2	101.9
400	93.9	92.2	91.2	91.7	91.2	91.0	96.6	98.0	104.2
500	93.6	92.7	91.8	90.9	92.8	95.8	98.7	103.1	106.6
630	93.3	92.2	92.3	93.9	94.9	97.1	100.1	104.3	109.7
800	99.1	96.1	96.7	98.0	97.4	98.2	102.7	108.1	112.6
1000	96.6	98.5	99.4	101.4	101.4	100.8	104.3	110.2	114.7
1250	98.4	98.2	98.0	101.0	103.1	103.0	106.7	112.6	116.2
1600	97.7	100.2	99.5	102.4	104.4	105.1	109.1	114.5	117.1
2000	100.9	102.1	104.5	104.8	105.6	106.5	110.6	115.9	118.1
2500	101.5	101.3	102.3	106.3	106.7	107.3	110.6	116.5	118.3
3150	101.7	102.6	103.1	104.6	106.7	107.2	111.2	116.3	118.0
4000	103.4	103.7	102.8	106.0	107.5	108.5	110.8	116.8	118.4
5000	106.9	104.4	103.4	105.4	107.5	109.0	110.8	115.4	116.7
6300	112.6	108.9	106.1	106.5	107.4	109.2	110.5	114.7	115.5
8000	114.6	112.3	109.1	107.3	108.0	109.7	110.3	114.2	114.4
10000	111.5	111.8	111.2	109.7	108.5	109.4	109.4	112.8	112.6
12500	109.7	108.5	109.2	110.9	109.9	109.6	108.9	110.9	110.6
16000	109.3	108.6	106.9	108.8	111.1	110.4	108.4	109.4	108.7
20000	108.0	107.3	106.6	107.1	109.3	110.0	107.2	107.6	106.4
25000	107.2	106.7	105.9	107.1	108.4	109.2	106.6	106.5	105.2
31500	106.0	106.0	105.3	106.1	107.2	107.1	105.5	105.3	103.7
40000	105.7	105.5	105.1	105.7	106.4	106.3	104.1	104.2	102.7
50300	105.1	104.7	104.6	105.8	105.8	105.3	103.2	103.0	101.5
63000	104.1	104.3	104.4	105.1	105.5	104.8	102.4	102.4	100.7
80000	103.4	103.3	103.5	104.5	104.9	104.2	102.1	101.6	100.1
TSPL	120.8	119.7	118.8	119.6	120.4	120.9	121.7	126.0	127.7
SSPL	120.8	119.7	118.8	119.5	120.4	120.8	121.7	126.0	127.6

V_∞ =	103	fps
T_a =	76	°F
RH_a =	10	%
P_a =	14.43	psia

STAND XARF RIG ID VT=103 TEST DATE 05/20/76 SCALE RATIO 0.0/1 RUN NUMBER 3604 CONDITION 3604

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB	122.6		0.0	N	545.2	0.0
TEMP		(R)	1051.0	0.0	(K)	583.9	0.0	THRUST,MEA	LB		0.0		N		0.0
RHO	LB/FT3		0.049	0.0	KG/M3	0.781	0.0	AREA (MOD)	SQFT	0.03	0.0		SQM	0.003	0.0
VEL		FPS	1716.0	0.0	M/S	523.0	0.0	W (MODEL)	LB/S	2.3	0.0		KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.7	78.2	80.6	82.5	81.6	79.6	80.6	83.4	87.2	99.8
.125	79.2	80.5	82.8	82.5	80.8	81.3	81.9	84.9	89.3	101.0
.160	80.8	83.4	83.6	84.8	83.6	83.0	83.0	87.0	92.1	103.1
.200	81.6	82.8	84.1	86.3	84.5	86.8	89.1	89.4	92.7	105.1
.250	84.5	86.0	87.0	88.0	90.3	89.1	90.9	94.9	96.4	108.6
.315	89.9	92.8	91.1	91.6	91.2	91.3	90.1	95.2	101.9	111.5
.400	93.9	92.2	91.2	91.7	91.2	91.0	96.6	98.0	104.2	113.4
.500	93.6	92.7	91.8	90.9	92.8	95.8	98.7	103.1	106.6	116.1
.630	93.3	92.2	92.3	93.9	94.9	97.1	100.1	104.3	109.7	118.0
.800	99.1	96.1	96.7	98.0	97.4	98.2	102.7	108.1	112.6	121.2
1.00	96.6	98.5	99.4	101.4	101.4	100.8	104.3	110.2	114.7	123.4
1.25	98.4	98.2	98.0	101.0	103.1	103.0	106.7	112.6	116.2	125.1
1.60	97.7	100.2	99.5	102.4	104.4	105.1	109.1	114.5	117.1	126.7
2.00	100.9	102.1	104.5	104.8	105.6	106.5	110.6	115.9	118.1	128.1
2.50	101.5	101.3	102.3	106.3	106.7	107.3	110.8	116.5	118.3	128.5
3.15	101.7	102.6	103.1	104.6	106.7	107.2	111.2	116.3	118.0	128.4
4.00	103.4	103.7	102.8	106.0	107.5	108.5	110.8	116.8	118.4	128.9
5.00	106.9	104.4	103.4	105.4	107.5	109.0	110.8	115.4	116.7	128.1
6.30	112.6	108.9	106.1	106.5	107.4	109.2	110.5	114.7	115.5	128.6
8.00	114.6	112.3	109.1	107.3	108.0	109.7	110.3	114.2	114.4	129.5
10.0	111.5	111.8	111.2	109.7	108.5	109.4	109.4	112.8	112.6	129.0
12.5	109.7	108.5	109.2	110.9	109.9	109.6	108.9	110.9	110.6	128.1
16.0	109.3	108.6	106.9	108.8	111.1	110.4	108.4	109.4	108.7	127.5
20.0	108.0	107.3	106.6	107.1	109.3	110.0	107.2	107.6	106.4	126.3
25.0	107.2	106.7	105.9	107.1	108.4	109.2	106.6	106.5	105.2	125.6
31.5	106.0	106.0	105.3	106.1	107.2	107.1	105.5	105.3	103.7	124.4
40.0	105.7	105.5	105.1	105.7	106.4	106.3	104.1	104.2	102.7	123.7
50.0	105.1	104.7	104.6	105.8	105.8	105.3	103.2	103.0	101.5	123.1
63.0	104.1	104.3	104.4	105.1	105.5	104.8	102.4	102.4	100.7	122.6
80.0	103.4	103.3	103.5	104.5	104.9	104.2	102.1	101.6	100.1	121.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.8	119.7	118.8	119.6	120.4	120.9	121.7	126.0	127.7	OAPWL = 140.1

V_∞ =	103	fps
T_a =	76	°F
RH_a =	10	%
P_a =	14.43	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/20/76		-00 000000	XARF	0	3605	3605

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.6	72.9	83.5	85.6	84.5	82.4	84.1	87.7	90.8
125	78.5	79.4	84.4	84.6	82.6	82.4	84.4	88.2	92.4
160	77.0	80.2	82.5	84.2	83.7	83.0	84.2	89.1	94.3
200	77.4	79.6	83.2	85.7	84.0	86.8	89.7	90.4	94.5
250	82.7	84.6	85.7	87.3	89.6	88.3	90.6	95.5	95.5
315	88.4	90.7	89.5	90.2	89.9	90.2	90.7	97.5	103.5
400	90.4	89.1	88.8	89.5	89.9	90.3	96.2	98.7	107.7
500	88.6	88.0	89.0	89.4	91.2	94.5	97.5	103.9	108.1
630	91.5	90.8	90.9	92.0	92.8	96.0	100.0	105.7	110.8
800	96.4	93.6	94.3	96.3	95.5	96.9	102.6	109.6	113.5
1000	93.4	96.0	97.2	98.9	98.7	99.1	104.1	111.0	114.3
1250	96.3	97.5	96.4	99.6	101.7	102.7	107.2	113.4	115.3
1600	96.9	98.1	98.7	101.1	103.2	104.8	109.0	114.9	115.9
2000	98.6	100.8	103.2	104.6	104.8	106.0	110.6	116.4	116.7
2500	100.4	100.3	101.0	104.8	105.5	106.6	110.8	116.9	116.1
3150	101.1	101.0	102.5	104.9	105.7	106.8	111.1	116.6	116.0
4000	102.9	101.8	102.1	104.5	106.1	107.9	110.9	116.9	115.5
5000	106.8	104.0	103.1	105.0	107.2	108.6	111.0	115.7	114.7
6300	112.6	109.3	105.9	106.6	106.8	108.6	110.5	114.4	113.2
8000	113.5	112.5	109.6	107.4	107.6	109.2	110.4	113.8	111.7
10000	109.9	111.0	111.4	110.2	108.5	109.0	109.6	112.5	109.4
12500	109.0	107.7	108.3	111.0	110.5	109.7	108.8	110.3	107.6
16000	108.6	108.3	106.5	108.4	111.1	110.7	108.4	108.5	105.8
20000	107.4	106.6	106.2	106.9	109.2	111.0	107.5	106.4	103.2
25000	106.3	106.1	105.5	106.7	108.4	109.7	106.9	105.4	101.9
31500	105.1	105.2	104.9	105.6	106.9	107.2	105.6	103.6	100.0
40000	104.5	104.5	104.3	105.3	106.1	106.0	103.9	102.3	98.6
50000	103.4	103.3	103.7	105.0	105.1	104.7	102.8	100.9	97.2
63000	102.4	102.8	103.2	104.1	104.6	104.0	101.6	99.9	95.8
80000	101.5	101.8	102.2	103.6	104.2	103.4	101.1	98.9	95.3
TSPL	119.9	119.1	118.4	119.2	120.0	120.7	121.7	126.1	126.1
SSPL	119.9	119.1	118.4	119.2	120.0	120.7	121.7	126.1	126.0

V_∞ =	203	fps
T_a =	60	°F
RH_a =	12	%
P_a =	14.18	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	120.9	119.7	118.6	119.0	119.4	119.7	120.4	124.6	125.4
SSPL	120.9	119.7	118.5	119.0	119.4	119.7	120.4	124.6	125.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	121.3	119.8	118.5	118.6	118.8	118.9	119.4	123.5	123.9
SSPL	121.2	119.8	118.5	118.6	118.8	118.9	119.4	123.5	123.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3605 3605

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.9	73.9	84.4	85.1	83.2	80.7	81.3	83.5	86.6
125	79.8	80.4	84.8	85.8	81.4	80.6	81.5	83.8	87.4
160	78.3	81.1	82.8	83.6	82.5	81.2	81.3	84.1	88.8
200	78.7	80.6	83.6	85.1	82.8	84.8	86.9	87.4	89.3
250	84.0	85.4	85.9	86.9	88.5	86.5	87.6	91.1	93.5
315	89.7	91.4	89.5	89.6	88.7	88.4	87.8	91.6	97.6
400	91.7	89.6	88.8	88.9	88.7	88.3	92.7	94.6	99.3
500	90.0	88.7	89.1	88.9	90.1	92.5	94.3	98.5	103.4
630	92.8	91.4	91.0	91.5	91.7	93.9	96.7	100.6	105.4
800	97.7	94.1	94.5	95.7	94.3	94.9	98.9	103.7	108.6
1000	94.7	96.8	97.4	98.4	97.5	97.2	100.4	105.6	110.2
1250	97.6	98.1	96.6	99.3	100.6	100.7	103.7	108.4	112.1
1600	98.2	98.9	99.0	100.7	102.1	102.8	105.6	110.1	113.3
2000	99.9	101.7	103.5	104.1	103.7	104.0	107.1	111.7	114.6
2500	101.8	101.0	101.4	104.4	104.4	104.7	107.4	112.2	114.8
3150	102.4	101.7	102.8	104.4	104.5	104.8	107.6	112.0	114.4
4000	104.2	102.4	102.3	104.0	104.9	105.9	107.7	112.2	114.5
5000	108.1	104.4	103.2	104.6	106.1	106.7	108.0	111.4	113.3
6300	113.9	109.6	105.7	105.4	105.7	106.7	107.7	110.5	111.9
8000	114.9	113.0	109.3	106.7	106.5	107.4	107.8	110.2	111.0
10000	111.2	111.7	111.3	109.4	107.3	107.2	107.1	109.1	109.3
12500	110.3	108.3	108.5	110.4	109.2	108.0	106.6	107.3	107.1
16000	109.9	108.8	106.5	108.0	110.0	109.0	106.6	106.1	105.2
20000	108.7	107.2	106.2	106.4	108.1	109.3	106.0	104.4	102.8
25000	107.6	106.7	105.5	106.2	107.2	107.9	105.3	103.6	101.6
31500	106.4	105.8	104.9	105.1	105.7	105.5	103.6	102.1	99.8
40000	105.8	105.2	104.4	104.8	104.9	104.4	102.2	100.7	98.5
50000	104.7	104.0	103.8	104.5	103.9	103.0	101.1	99.4	97.1
63000	103.7	103.4	103.3	103.5	103.5	102.3	99.9	98.3	96.0
80000	102.8	102.5	102.3	103.1	103.0	101.8	99.5	97.5	95.1
TSPL	121.3	119.7	118.4	118.6	118.8	118.9	118.9	121.8	124.0
SSPL	121.3	119.7	118.4	118.6	118.8	118.9	118.9	121.8	124.0

V_∞ =	203	fps
T_a =	60	°F
RH_a =	12	%
P_a =	14.18	psia

STAND XARF RIG ID VT=203 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3605 CONDITION 3605

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB		112.2	0.0	N	499.0	0.0
TEMP	(R)		1056.0	0.0	(K)	586.7	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.049	0.0	KG/M3	0.777	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1720.0	0.0	M/S	524.3	0.0	W (MODEL)	LB/S		2.1	0.0	KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.9	73.9	84.4	85.1	83.2	80.7	81.3	83.5	86.6	101.1
.125	79.8	80.4	84.8	83.8	81.4	80.6	81.5	83.8	87.4	101.1
.160	78.3	81.1	82.8	83.6	82.5	81.2	81.3	84.1	88.8	101.1
.200	78.7	80.6	83.6	85.1	82.8	84.8	86.9	87.4	89.3	103.1
.250	84.0	85.4	85.9	86.9	88.5	86.5	87.6	91.1	93.5	106.2
.315	89.7	91.4	89.5	89.6	88.7	88.4	87.8	91.6	97.6	108.8
.400	91.7	89.6	88.8	88.9	88.7	88.3	92.7	94.6	99.3	109.9
.500	90.0	88.7	89.1	88.9	90.1	92.5	94.3	98.5	103.4	112.4
.630	92.8	91.4	91.0	91.5	91.7	93.9	96.7	100.6	105.4	114.5
.800	97.7	94.1	94.5	95.7	94.3	94.9	96.9	103.7	108.6	117.5
1.00	94.7	96.8	97.4	98.4	97.5	97.2	100.4	105.6	110.2	119.3
1.25	97.6	98.1	96.6	99.3	100.6	100.7	103.7	108.4	112.1	121.6
1.60	98.2	98.9	99.0	100.7	102.1	102.8	105.6	110.1	113.3	123.2
2.00	99.9	101.7	103.5	104.1	103.7	104.0	107.1	111.7	114.6	125.0
2.50	101.8	101.0	101.4	104.4	104.4	104.7	107.4	112.2	114.8	125.2
3.15	102.4	101.7	102.8	104.4	104.5	104.8	107.6	112.0	114.4	125.2
4.00	104.2	102.4	102.3	104.0	104.9	105.9	107.7	112.2	114.5	125.5
5.00	108.1	104.4	103.2	104.6	106.1	106.7	108.0	111.4	113.3	125.7
6.30	113.9	109.6	105.7	105.4	105.7	106.7	107.7	110.5	111.9	127.0
8.00	114.9	113.0	109.3	106.7	106.5	107.4	107.8	110.2	111.0	128.4
10.0	111.2	111.7	111.3	109.4	107.3	107.2	107.1	109.1	109.3	128.0
12.5	110.3	108.3	108.5	110.4	109.2	108.0	106.6	107.3	107.1	127.0
16.0	109.9	108.8	106.5	108.0	110.0	109.0	106.6	106.1	105.2	126.5
20.0	108.7	107.2	106.2	106.4	108.1	109.3	106.0	104.4	102.8	125.4
25.0	107.6	106.7	105.5	106.2	107.2	107.9	105.3	103.6	101.6	124.6
31.5	106.4	105.8	104.9	105.1	105.7	105.5	103.8	102.1	99.8	123.3
40.0	105.8	105.2	104.4	104.8	104.9	104.4	102.2	100.7	98.5	122.5
50.0	104.7	104.0	103.8	104.5	103.9	103.0	101.1	99.4	97.1	121.6
63.0	103.7	103.4	103.3	103.5	103.5	102.3	99.9	98.3	96.0	120.9
80.0	102.8	102.5	102.3	103.1	103.0	101.8	99.5	97.5	95.1	120.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	121.3	119.7	118.4	118.6	118.8	118.9	118.9	121.8	124.0	

OAPWL = 138.1

V_∞ =	203	fps
T_a =	60	°F
RH_a =	12	%
P_a =	14.18	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XAKF 0 3606 3606

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	80.1	79.0	76.2	78.3	78.3	76.9	75.3	83.4	89.4
125	77.6	78.3	78.0	77.8	76.5	76.8	76.3	83.6	74.0
160	76.3	68.8	76.9	78.5	78.3	77.2	77.8	84.4	86.1
200	76.4	61.5	76.7	79.5	78.3	80.2	83.3	85.3	81.2
250	75.6	77.6	79.9	80.6	83.0	82.2	85.0	90.0	91.2
315	81.1	83.6	83.2	83.3	83.6	83.9	85.4	91.7	91.6
400	83.1	83.0	82.7	83.5	84.1	84.7	90.8	93.3	98.3
500	82.7	82.1	83.0	83.6	85.3	88.3	92.1	98.1	101.3
630	85.0	84.7	85.1	86.2	87.3	90.2	94.7	99.9	104.4
800	90.4	87.8	88.6	90.6	90.2	91.5	96.9	102.7	106.5
1000	87.6	90.3	91.6	93.3	93.4	93.8	98.2	104.6	107.4
1250	90.2	91.5	90.3	93.5	95.7	96.5	100.5	106.3	108.1
1600	90.8	91.9	92.5	94.9	97.0	98.5	102.1	107.4	108.6
2000	91.8	93.9	96.3	97.6	97.9	99.4	103.1	108.1	108.9
2500	92.8	92.9	93.7	97.4	98.3	99.9	102.8	107.5	107.6
3150	92.6	93.2	94.6	96.9	98.3	100.0	103.1	106.1	106.5
4000	92.1	92.6	93.1	95.9	98.5	100.5	102.7	105.3	104.2
5000	91.8	92.7	93.4	96.2	98.9	100.8	102.8	103.8	102.2
6300	91.2	92.4	93.4	96.1	98.6	101.0	102.4	102.1	100.1
8000	91.3	91.8	93.0	95.8	98.9	101.2	102.0	101.4	97.8
10000	90.7	91.8	92.7	95.3	98.1	100.3	100.8	100.1	95.7
12500	90.0	91.0	92.0	94.7	97.5	99.4	99.7	98.0	93.9
16000	89.4	90.4	91.3	94.1	96.8	98.6	98.3	96.3	91.9
20000	88.2	89.1	90.1	92.9	95.5	97.1	96.4	93.9	89.3
25000	87.3	88.4	89.5	92.0	95.1	95.8	94.7	92.7	87.8
31500	86.3	87.4	88.5	91.0	93.5	94.4	93.2	90.8	85.9
40000	85.8	86.6	87.8	90.2	92.4	93.0	91.5	89.1	84.5
50000	84.8	85.6	87.0	89.6	91.1	91.4	90.2	87.4	83.2
63000	83.8	85.0	86.3	88.2	90.2	90.2	88.7	86.3	82.0
80000	83.4	84.2	85.3	87.5	89.3	89.4	87.7	85.1	81.4
TSPL	103.4	104.2	105.2	107.7	109.7	111.4	113.4	116.5	117.3
SSPL	103.3	104.1	105.2	107.7	109.7	111.4	113.3	116.4	117.2

V_∞ =	201	fps
T_a =	56	°F
RH_a =	15	%
P_a =	14.19	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	104.3	104.8	105.4	107.5	109.2	110.5	112.1	115.0	116.6
SSPL	104.2	104.7	105.3	107.5	109.1	110.4	112.0	115.0	116.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	104.7	104.9	105.3	107.2	108.6	109.6	111.1	113.9	115.1
SSPL	104.6	104.8	105.2	107.1	108.5	109.6	111.0	113.9	115.0

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3606 3606

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	81.4	79.4	76.2	77.8	77.1	75.2	72.7	76.9	83.6
125	78.9	79.0	78.0	77.1	75.3	75.0	73.6	78.9	78.8
160	77.6	69.5	77.6	77.9	77.1	75.4	74.9	79.0	83.0
200	77.7	62.3	78.0	76.9	77.1	78.3	80.3	82.5	81.7
250	76.9	78.4	80.1	80.1	81.8	80.3	81.9	85.4	88.3
315	82.4	84.3	83.2	82.7	82.4	82.1	82.5	86.7	89.8
400	84.5	83.7	82.7	83.0	82.9	82.7	87.2	89.6	92.6
500	84.0	82.8	83.1	83.1	84.2	86.2	88.8	93.0	97.2
630	86.3	85.3	85.2	85.7	86.2	88.1	91.3	95.1	99.3
800	91.7	88.4	88.8	90.1	89.0	89.5	93.3	97.7	102.0
1000	89.0	91.1	91.8	92.8	92.2	91.9	94.7	99.4	103.6
1250	91.5	92.1	90.5	93.2	94.6	94.6	97.1	101.4	105.0
1600	92.1	92.6	92.8	94.5	95.9	96.6	98.9	102.8	105.8
2000	93.1	94.8	96.6	97.1	96.8	97.5	99.9	103.7	106.4
2500	94.2	93.6	94.1	97.0	97.2	98.0	99.8	103.2	105.5
3150	93.9	93.9	94.8	96.4	97.1	98.0	100.1	102.4	104.0
4000	93.4	93.3	93.3	95.5	97.4	98.5	99.9	101.9	102.7
5000	93.1	93.4	93.7	95.8	97.8	98.9	100.1	101.1	100.9
6300	92.5	93.2	93.7	95.7	97.5	99.1	100.0	100.0	99.0
8000	92.6	92.6	93.3	95.5	97.9	99.3	99.7	99.5	97.8
10000	92.0	92.5	93.0	94.9	97.0	98.4	98.6	98.3	96.2
12500	91.3	91.7	92.2	94.3	96.4	97.5	97.5	96.5	94.0
16000	90.7	91.1	91.6	93.8	95.7	96.8	96.3	95.0	92.2
20000	89.5	89.8	90.4	92.5	94.4	95.3	94.5	92.8	89.7
25000	88.6	89.1	89.7	91.6	93.9	94.0	92.8	91.4	88.4
31500	87.6	88.1	88.8	90.6	92.4	92.6	91.4	89.6	86.5
40000	87.1	87.4	88.1	89.8	91.3	91.3	89.8	87.9	85.0
50000	86.1	86.4	87.3	89.2	90.0	89.7	88.4	86.4	83.3
63000	85.1	85.8	86.6	87.8	89.1	88.5	87.0	85.1	82.2
80000	84.7	84.9	85.5	87.1	88.1	87.7	86.0	83.9	81.2
TSPL	104.7	105.0	105.5	107.3	108.6	109.5	110.6	112.6	114.6
SSPL	104.6	104.9	105.4	107.2	108.6	109.5	110.6	112.6	114.5

V_∞ =	201	fps
T_a =	56	°F
RH_a =	15	%
P_a =	14.19	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3606 CONDITION 3606

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
-----	P.R.		1.81	0.0		1.81	0.0	THRUST,IDL	LB	70.9	0.0	N	315.4	0.0
	TEMP	(R)	1065.0	0.0	(K)	591.7	0.0	THRUST,MEA	LB	0.0		N	0.0	
	RHO	LB/FT3	0.044	0.0	KG/M3	0.706	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
	VEL	FPS	1416.0	0.0	M/S	432.2	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.4	79.4	76.2	77.8	77.1	75.2	72.7	76.9	83.6	96.3
.125	78.9	79.0	78.0	77.1	75.3	75.0	73.6	78.9	78.8	95.6
.160	77.6	69.5	77.6	77.9	77.1	75.4	74.9	79.0	83.0	95.5
.200	77.7	62.3	78.0	78.9	77.1	78.3	80.3	82.5	81.7	97.0
.250	76.9	78.4	80.1	80.1	81.8	80.3	81.9	85.4	88.3	100.1
.315	82.4	84.3	83.2	82.7	82.4	82.1	82.5	86.7	89.8	102.3
.400	84.5	83.7	82.7	83.0	82.9	82.7	87.2	89.6	92.6	104.0
.500	84.0	82.8	83.1	83.1	84.2	86.2	88.8	93.0	97.2	106.5
.630	86.3	85.3	85.2	85.7	86.2	88.1	91.3	95.1	99.3	108.7
.800	91.7	88.4	88.8	90.1	89.0	89.5	93.3	97.7	102.0	111.5
1.00	89.0	91.1	91.8	92.8	92.2	91.9	94.7	99.4	103.6	113.3
1.25	91.5	92.1	90.5	93.2	94.6	94.6	97.1	101.4	105.0	114.9
1.60	92.1	92.6	92.8	94.5	95.9	96.6	98.9	102.8	105.8	116.3
2.00	93.1	94.8	96.6	97.1	96.8	97.5	99.9	103.7	106.4	117.5
2.50	94.2	93.6	94.1	97.0	97.2	98.0	99.8	103.2	105.5	117.0
3.15	93.9	93.9	94.8	96.4	97.1	98.0	100.1	102.4	104.0	116.6
4.00	93.4	93.3	93.3	95.5	97.4	98.5	99.9	101.9	102.7	116.2
5.00	93.1	93.4	93.7	95.8	97.8	98.9	100.1	101.1	100.9	116.0
6.30	92.5	93.2	93.7	95.7	97.5	99.1	100.0	100.0	99.0	115.6
8.00	92.6	92.6	93.3	95.5	97.9	99.3	99.7	99.5	97.8	115.4
10.0	92.0	92.5	93.0	94.9	97.0	98.4	98.6	98.3	96.2	114.6
12.5	91.3	91.7	92.2	94.3	96.4	97.5	97.5	96.5	94.0	113.6
16.0	90.7	91.1	91.6	93.8	95.7	96.8	96.3	95.0	92.2	112.7
20.0	89.5	89.8	90.4	92.5	94.4	95.3	94.5	92.8	89.7	111.2
25.0	88.6	89.1	89.7	91.6	93.9	94.0	92.8	91.4	88.4	110.1
31.5	87.6	88.1	88.8	90.6	92.4	92.6	91.4	89.6	86.5	108.8
40.0	87.1	87.4	88.1	89.8	91.3	91.3	89.8	87.9	85.0	107.7
50.0	86.1	86.4	87.3	89.2	90.0	89.7	88.4	86.4	83.3	106.5
63.0	85.1	85.8	86.6	87.8	89.1	88.5	87.0	85.1	82.2	105.4
80.0	84.7	84.9	85.5	87.1	88.1	87.7	86.0	83.9	81.2	104.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	104.7	105.0	105.5	107.3	106.6	109.5	110.6	112.6	114.6	

OAPWL = 127.4

V_∞ =	201	fps
T_a =	56	°F
RH_a =	15	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3607 3607

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.1	71.1	74.3	76.3	75.5	73.9	76.7	81.9	84.6
125	73.3	75.7	78.1	77.6	75.9	76.8	78.6	83.5	87.4
160	74.1	77.6	78.5	79.8	79.1	78.8	79.9	85.6	90.2
200	76.1	77.4	78.5	80.9	79.9	81.9	85.3	87.5	90.9
250	78.0	80.5	81.1	81.8	84.6	84.4	86.9	92.0	92.5
315	82.4	85.1	84.5	85.4	85.6	86.1	87.9	93.1	100.1
400	86.2	85.8	85.5	86.0	85.8	86.4	92.3	95.1	101.9
500	86.9	86.2	85.5	85.6	87.5	90.5	95.2	100.1	102.8
630	86.0	85.8	86.6	88.1	89.7	92.6	96.5	101.9	106.9
800	92.5	89.9	91.1	92.8	92.6	93.9	99.1	104.8	108.6
1000	90.0	91.7	93.4	95.8	96.4	96.5	100.4	106.7	110.5
1250	91.6	92.0	92.2	95.6	97.5	98.4	102.6	108.7	111.2
1600	91.6	93.9	93.6	96.4	98.4	100.4	104.4	109.5	111.4
2000	93.5	95.5	97.8	98.3	99.7	101.4	105.4	110.5	112.1
2500	93.7	94.3	95.5	98.9	100.2	101.7	104.9	110.0	111.1
3150	93.8	94.9	95.9	97.6	100.1	101.7	105.0	108.5	110.3
4000	93.5	94.3	94.7	97.9	100.3	102.3	104.5	107.6	108.2
5000	93.2	94.3	95.0	97.9	100.4	102.6	104.6	105.9	106.2
6300	92.7	93.9	95.1	97.7	100.1	102.6	103.9	104.3	104.0
8000	93.0	93.6	94.9	97.3	100.4	102.9	103.5	103.6	101.8
10000	92.5	93.6	94.4	96.9	99.8	101.8	102.6	102.2	99.4
12500	91.7	92.7	93.8	96.4	99.0	101.1	101.2	100.2	97.4
16000	91.3	92.3	93.2	96.0	98.5	100.4	99.9	98.6	95.4
20000	90.0	90.8	91.9	94.5	97.1	98.7	98.0	96.2	92.6
25000	89.0	90.2	91.3	93.8	96.7	97.6	96.5	94.9	91.2
31500	88.0	89.1	90.4	92.7	95.3	96.1	94.9	93.0	89.1
40000	87.4	88.3	89.6	91.9	94.0	94.8	93.2	91.3	87.5
50000	86.4	87.1	88.7	91.2	92.8	93.2	91.8	89.7	85.8
63000	85.5	86.7	88.1	90.1	91.9	91.8	90.5	88.6	84.9
80000	85.0	85.8	87.0	89.3	90.9	90.9	89.2	87.5	85.3
TSPL	104.9	105.9	106.9	109.3	111.4	113.2	115.3	118.8	120.5
SSPL	104.8	105.8	106.8	109.2	111.4	113.2	115.2	118.7	120.4

V_∞ =	101	fps
T_a =	58	°F
RH_a =	17	%
P_a =	14.43	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	105.4	106.1	107.0	109.2	111.1	112.7	114.6	117.9	119.8
SSPL	105.3	106.0	106.9	109.1	111.1	112.7	114.5	117.9	119.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	105.6	106.2	106.9	109.0	110.9	112.3	114.1	117.4	119.1
SSPL	105.5	106.1	106.9	109.0	110.8	112.3	114.1	117.3	119.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3607 3607

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	72.8	71.5	74.4	76.0	74.9	73.0	75.0	79.3	82.5
125	74.0	76.2	78.2	77.3	75.3	75.8	77.1	80.9	84.6
160	74.8	78.0	78.6	79.5	78.4	77.8	78.4	82.7	87.2
200	76.8	77.8	78.6	80.6	79.3	80.9	83.7	85.5	88.1
250	78.7	80.9	81.1	81.6	84.1	83.5	85.3	89.7	91.4
315	83.1	85.5	84.5	85.2	85.2	85.2	86.3	90.2	95.9
400	86.9	86.1	85.5	85.7	85.2	85.9	90.5	92.7	97.6
500	87.6	86.5	85.5	85.4	87.0	89.4	93.4	97.7	100.6
630	86.7	86.2	86.7	87.9	89.2	91.6	94.7	99.2	103.7
800	93.2	90.2	91.2	92.6	92.0	92.9	97.2	102.1	106.0
1000	90.7	92.1	93.5	95.6	95.8	95.5	98.6	103.9	108.0
1250	92.3	92.4	92.3	95.5	97.0	97.4	100.8	106.0	109.3
1600	92.3	94.3	93.7	96.3	97.9	99.4	102.7	107.1	109.7
2000	94.2	96.0	97.9	98.1	99.2	100.4	103.7	108.1	110.5
2500	94.4	94.7	95.7	98.8	99.7	100.7	103.2	107.7	109.8
3150	94.4	95.2	95.9	97.4	99.5	100.7	103.3	106.3	108.4
4000	94.1	94.6	94.8	97.7	99.8	101.3	103.0	105.6	106.6
5000	93.8	94.7	95.1	97.7	99.9	101.6	103.2	104.3	104.8
6300	93.4	94.3	95.2	97.5	99.6	101.6	102.6	102.9	102.8
8000	93.7	94.0	95.0	97.2	100.0	102.0	102.3	102.4	101.3
10000	93.2	94.0	94.5	96.8	99.3	100.8	101.4	101.2	99.3
12500	92.3	93.1	93.9	96.2	98.5	100.1	100.1	99.3	97.2
16000	92.0	92.7	93.3	95.8	98.0	99.5	98.9	97.8	95.4
20000	90.6	91.2	92.0	94.3	96.6	97.8	97.0	95.5	92.7
25000	89.6	90.6	91.4	93.6	96.2	96.7	95.5	94.1	91.3
31500	88.6	89.5	90.5	92.5	94.8	95.2	93.9	92.3	89.3
40000	88.1	88.7	89.7	91.8	93.5	94.0	92.3	90.7	87.7
50000	87.1	87.5	88.8	91.0	92.3	92.3	90.9	89.1	86.0
63000	86.1	87.1	88.2	89.9	91.3	91.0	89.5	88.0	85.1
80000	85.7	86.1	87.1	89.1	90.3	90.0	88.2	86.6	84.7
TSPL	105.6	106.3	107.0	109.1	110.9	112.2	113.8	116.6	118.7
SSPL	105.5	106.2	106.9	109.1	110.9	112.2	113.8	116.5	118.6

V_∞ =	101	fps
T_a =	58	°F
RH_a =	17	%
P_a =	14.43	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3607 CONDITION 3607

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.81	0.0		1.81	0.0	THRUST,IDL	LB	69.7	0.0	N	310.1	0.0
TEMP	(R)		1059.0	0.0	(K)	588.3	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.044	0.0	KG/M3	0.710	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1412.0	0.0	M/S	430.4	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	72.8	71.5	74.4	76.0	74.9	73.0	75.0	79.3	82.5	94.1
.125	74.0	76.2	78.2	77.3	75.3	75.8	77.1	80.9	84.6	96.3
.160	74.8	78.0	78.6	79.5	78.4	77.8	78.4	82.7	87.2	98.1
.200	76.8	77.8	78.6	80.6	79.3	80.9	83.7	85.5	88.1	100.0
.250	78.7	80.9	81.1	81.6	84.1	83.5	85.3	89.7	91.4	103.1
.315	83.1	85.5	84.5	85.2	85.2	85.2	86.3	90.2	95.9	105.6
.400	86.9	86.1	85.5	85.7	85.2	85.9	90.5	92.7	97.6	107.4
.500	87.6	86.5	85.5	85.4	87.0	89.4	93.4	97.7	100.6	110.4
.630	86.7	86.2	86.7	87.9	89.2	91.6	94.7	99.2	103.7	112.4
.800	93.2	90.2	91.2	92.6	92.0	92.9	97.2	102.1	106.0	115.1
1.00	90.7	92.1	93.5	95.6	95.8	95.5	98.6	103.9	108.0	117.1
1.25	92.3	92.4	92.3	95.5	97.0	97.4	100.8	106.0	109.3	118.6
1.60	92.3	94.3	93.7	96.3	97.9	99.4	102.7	107.1	109.7	119.7
2.00	94.2	96.0	97.9	98.1	99.2	100.4	103.7	108.1	110.5	120.8
2.50	94.4	94.7	95.7	98.8	99.7	100.7	103.2	107.7	109.8	120.5
3.15	94.4	95.2	95.9	97.4	99.5	100.7	103.3	106.3	108.4	119.7
4.00	94.1	94.6	94.8	97.7	99.8	101.3	103.0	105.6	106.8	119.2
5.00	93.8	94.7	95.1	97.7	99.9	101.6	103.2	104.3	104.8	118.7
6.30	93.4	94.3	95.2	97.5	99.6	101.6	102.6	102.9	102.8	118.0
8.00	93.7	94.0	95.0	97.2	100.0	102.0	102.3	102.4	101.3	117.9
10.0	93.2	94.0	94.5	96.8	99.3	100.8	101.4	101.2	99.3	116.9
12.5	92.3	93.1	93.9	96.2	98.5	100.1	100.1	99.3	97.2	115.9
16.0	92.0	92.7	93.3	95.8	98.0	99.5	98.9	97.8	95.4	115.1
20.0	90.6	91.2	92.0	94.3	96.6	97.8	97.0	95.5	92.7	113.4
25.0	89.6	90.6	91.4	93.6	96.2	96.7	95.5	94.1	91.3	112.4
31.5	88.6	89.5	90.5	92.5	94.8	95.2	93.9	92.3	89.3	111.0
40.0	88.1	88.7	89.7	91.8	93.5	94.0	92.3	90.7	87.7	109.9
50.0	87.1	87.5	88.8	91.0	92.3	92.3	90.9	89.1	86.0	108.6
63.0	86.1	87.1	88.2	89.9	91.3	91.0	89.5	88.0	85.1	107.6
80.0	85.7	86.1	87.1	89.1	90.3	90.0	88.2	86.6	84.7	106.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	105.6	106.3	107.0	109.1	110.9	112.2	113.8	116.6	118.7	OAPWL = 130.4

V_∞ =	101	fps
T_a =	58	°F
RH_a =	17	%
P_a =	14.43	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/20/76		-00 000000	XARF	0	3610	3610

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	62.6	61.1	64.5	65.2	64.9	63.5	66.2	68.6	70.6
125	65.2	67.3	69.9	69.6	67.6	69.0	70.1	73.0	76.7
160	66.1	69.5	70.4	71.4	70.5	70.1	71.4	75.8	80.0
200	68.4	69.6	70.0	72.3	71.4	73.0	76.4	77.9	80.9
250	70.2	71.9	72.8	72.7	75.3	75.0	78.0	82.5	81.9
315	73.0	75.3	75.3	75.9	76.7	77.2	79.3	83.3	89.3
400	76.2	76.8	76.6	77.6	77.8	78.6	83.3	85.6	90.9
500	77.2	77.2	77.0	77.5	78.8	81.4	85.9	89.4	91.5
630	76.4	76.8	77.7	79.8	81.2	83.7	86.6	91.2	95.4
800	82.1	79.8	80.8	82.5	83.6	84.8	88.6	93.0	96.3
1000	80.6	81.2	82.6	84.8	85.9	86.3	88.9	94.0	97.4
1250	80.8	81.0	81.7	84.1	86.4	87.6	89.7	94.7	96.9
1600	80.8	82.1	82.4	85.1	87.1	88.3	90.7	94.8	95.9
2000	81.8	82.8	84.3	85.9	87.8	89.3	91.3	93.8	94.6
2500	81.6	82.3	83.1	86.0	87.9	89.1	90.9	93.1	92.2
3150	81.6	82.5	83.8	86.0	87.9	89.2	91.1	92.1	90.7
4000	81.8	82.4	83.1	85.9	88.1	89.4	90.5	91.8	88.7
5000	81.8	82.6	83.3	86.1	88.2	89.3	90.3	90.0	87.2
6300	80.8	81.7	82.8	85.2	87.2	88.7	89.0	88.4	85.5
8000	80.7	81.0	82.3	84.7	86.8	88.3	88.3	87.5	83.5
10000	79.9	80.6	81.3	83.7	86.0	86.9	86.8	85.7	81.6
12500	78.5	79.3	80.4	82.7	84.6	85.6	85.1	83.5	79.8
16000	77.8	78.5	79.4	81.9	83.8	84.6	83.6	81.7	77.8
20000	76.3	77.0	78.0	80.2	82.2	82.8	81.6	79.4	75.2
25000	75.4	76.2	77.4	79.5	81.7	81.7	80.1	78.1	73.6
31500	74.5	75.4	76.4	78.2	80.4	80.3	78.8	76.2	72.1
40000	74.1	74.8	75.9	77.8	79.3	79.4	77.4	74.9	70.8
50000	73.6	74.2	75.3	77.6	78.7	78.5	76.5	73.5	69.7
63000	73.1	73.8	75.1	76.7	76.0	77.5	75.7	72.4	69.3
80000	71.1	71.8	73.1	75.2	77.1	76.3	73.9	70.2	63.0
TSPL	93.2	93.8	94.7	97.0	98.9	100.0	101.5	103.8	105.3
SSPL	93.0	93.6	94.5	96.9	98.8	99.9	101.3	103.6	105.0

V_∞ =	104	fps
T_a =	63	°F
RH_a =	15	%
P_a =	14.43	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	93.6	94.0	94.8	96.9	98.6	99.5	100.8	102.9	104.6
SSPL	93.5	93.8	94.6	96.7	98.5	99.4	100.6	102.8	104.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	93.9	94.2	94.8	96.7	98.3	99.1	100.3	102.4	103.9
SSPL	93.7	93.9	94.6	96.6	98.2	99.0	100.1	102.3	103.6

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3610 3610

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	63.3	61.5	64.6	64.9	64.2	62.6	64.7	66.6	68.5
125	65.9	67.8	70.0	69.3	67.0	68.1	68.7	70.7	73.8
160	66.8	69.9	70.5	71.1	69.9	69.2	69.9	73.3	77.1
200	69.1	70.0	70.1	72.0	70.8	72.0	74.8	76.0	78.2
250	70.9	72.3	72.8	72.5	74.7	74.1	76.3	80.4	81.3
315	73.7	75.7	75.3	75.7	76.1	76.2	77.8	80.7	85.5
400	76.9	77.1	76.6	77.3	77.2	77.6	81.6	83.4	87.2
500	77.9	77.5	77.0	77.3	78.3	80.4	84.2	87.3	89.5
630	77.1	77.2	77.8	79.6	80.7	82.7	85.0	88.7	92.5
800	82.8	80.1	80.9	82.3	83.1	83.8	86.9	90.6	93.8
1000	81.3	81.6	82.7	84.6	85.3	85.4	87.3	91.4	94.9
1250	81.5	81.4	81.8	84.0	85.9	86.7	88.1	92.2	95.0
1600	81.5	82.5	82.5	85.0	86.6	87.4	89.2	91.9	94.0
2000	82.5	83.2	84.4	85.7	87.3	88.4	89.9	92.0	93.1
2500	82.3	82.7	83.2	85.9	87.4	88.2	89.5	91.5	91.5
3150	82.2	82.8	83.9	85.8	87.3	88.2	89.7	90.7	90.0
4000	82.4	82.7	83.2	85.7	87.6	88.4	89.2	90.5	88.9
5000	82.4	83.0	83.4	85.9	87.7	88.3	89.1	89.0	87.1
6300	81.5	82.1	82.9	85.0	86.7	87.8	87.9	87.4	85.4
8000	81.4	81.4	82.4	84.6	86.3	87.4	87.2	86.7	83.9
10000	80.6	81.0	81.4	83.5	85.5	86.0	85.7	84.9	82.0
12500	79.1	79.6	80.5	82.5	84.0	84.7	84.0	82.7	79.9
16000	78.5	78.9	79.5	81.7	83.3	83.7	82.6	81.0	78.0
20000	76.9	77.4	78.1	80.0	81.6	81.9	80.6	78.8	75.5
25000	76.0	76.5	77.5	79.3	81.1	80.8	79.1	77.5	74.1
31500	75.1	75.8	76.5	78.0	79.8	79.4	77.9	75.7	72.3
40000	74.8	75.2	76.0	77.6	78.7	78.6	76.6	74.4	71.1
50000	74.3	74.6	75.4	77.4	78.1	77.7	75.7	73.1	69.8
63000	73.7	74.1	75.1	76.4	77.4	76.6	74.8	71.9	69.0
80000	71.8	72.2	73.2	75.0	76.5	75.5	73.2	70.1	64.6
TSPL	93.9	94.2	94.8	96.8	98.3	99.1	100.1	101.9	103.4
SSPL	93.7	93.9	94.6	96.7	98.2	99.0	99.9	101.8	103.1

V_∞ =	104	fps
T_a =	63	°F
RH_a =	15	%
P_a =	14.43	psia

STAND XARF RIG ID.VT=104 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3610 CONDITION 3610

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.31	0.0		1.31	0.0	THRUST,IDL	LB	32.4	0.0	N	144.3	0.0
TEMP	(R)	1070.0	0.0	(K)	594.4	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.040	0.0	KG/M3	0.644	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	976.0	0.0	M/S	297.5	0.0	W (MODEL)	LB/S	1.1	0.0	KG/S	0.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	63.3	61.5	64.6	64.9	64.2	62.6	64.7	66.6	68.5	82.8
.125	65.9	67.8	70.0	69.3	67.0	68.1	68.7	70.7	73.8	87.4
.160	66.8	69.9	70.5	71.1	69.9	69.2	69.9	73.3	77.1	89.3
.200	69.1	70.0	70.1	72.0	70.8	72.0	74.8	76.0	78.2	91.1
.250	70.9	72.3	72.8	72.5	74.7	74.1	76.3	80.4	81.3	93.8
.315	73.7	75.7	75.3	75.7	76.1	76.2	77.8	80.7	85.5	96.0
.400	76.9	77.1	76.6	77.3	77.2	77.6	81.6	83.4	87.2	98.1
.500	77.9	77.5	77.0	77.3	78.3	80.4	84.2	87.3	89.5	100.4
.630	77.1	77.2	77.8	79.6	80.7	82.7	85.0	88.7	92.5	102.2
.800	82.8	80.1	80.9	82.3	83.1	83.8	86.9	90.6	93.8	104.1
1.00	81.3	81.6	82.7	84.6	85.3	85.4	87.3	91.4	94.9	105.2
1.25	81.5	81.4	81.8	84.0	85.9	86.7	88.1	92.2	95.0	105.7
1.60	81.5	82.5	82.5	85.0	86.6	87.4	89.2	91.9	94.0	105.9
2.00	82.5	83.2	84.4	85.7	87.3	88.4	89.9	92.0	93.1	106.3
2.50	82.3	82.7	83.2	85.9	87.4	88.2	89.5	91.5	91.5	105.8
3.15	82.2	82.8	83.9	85.8	87.3	88.2	89.7	90.7	90.0	105.6
4.00	82.4	82.7	83.2	85.7	87.6	88.4	89.2	90.5	88.9	105.4
5.00	82.4	83.0	83.4	85.9	87.7	88.3	89.1	89.0	87.1	105.1
6.30	81.5	82.1	82.9	85.0	86.7	87.8	87.9	87.4	85.4	104.1
8.00	81.4	81.4	82.4	84.6	86.3	87.4	87.2	86.7	83.9	103.5
10.0	80.6	81.0	81.4	83.5	85.5	86.0	85.7	84.9	82.0	102.3
12.5	79.1	79.6	80.5	82.5	84.0	84.7	84.0	82.7	79.9	100.8
16.0	78.5	78.9	79.5	81.7	83.3	83.7	82.6	81.0	78.0	99.8
20.0	76.9	77.4	78.1	80.0	81.6	81.9	80.6	78.8	75.5	98.1
25.0	76.0	76.5	77.5	79.3	81.1	80.8	79.1	77.5	74.1	97.2
31.5	75.1	75.8	76.5	78.0	79.8	79.4	77.9	75.7	72.3	95.9
40.0	74.6	75.2	76.0	77.6	78.7	78.6	76.6	74.4	71.1	95.1
50.0	74.3	74.6	75.4	77.4	78.1	77.7	75.7	73.1	69.8	94.5
63.0	73.7	74.1	75.1	76.4	77.4	76.6	74.6	71.9	69.0	93.7
80.0	71.8	72.2	73.2	75.0	76.5	75.5	73.2	70.1	64.6	92.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	93.9	94.2	94.8	96.8	98.3	99.1	100.1	101.9	103.4	OAPWL = 116.8

V_∞ =	104	fps
T_a =	63	°F
RH_a =	15	%
P_a =	14.43	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3611 3611

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.4	76.1	77.0	68.1	74.0	71.6	66.2	80.3	88.5
125	75.7	74.6	63.6	70.3	72.4	67.9	78.6	78.8	89.2
160	73.3	73.5	64.5	69.5	72.6	70.2	68.3	76.1	86.7
200	73.3	73.8	72.1	69.4	70.3	70.1	72.5	77.3	86.2
250	73.4	73.5	69.2	70.2	73.7	73.1	75.7	81.3	87.5
315	72.9	61.3	72.3	72.9	74.6	74.8	76.4	81.8	93.3
400	69.8	68.2	73.0	74.5	75.2	75.9	81.1	83.6	99.7
500	71.1	66.8	73.5	74.9	76.3	78.3	82.0	86.8	89.9
630	73.7	73.3	75.5	77.1	78.5	80.7	83.9	88.4	92.0
800	79.5	76.9	78.4	80.1	80.8	81.8	85.5	90.2	93.4
1000	77.8	78.6	80.1	82.2	82.6	83.2	85.9	90.7	93.2
1250	78.1	78.9	79.4	81.8	83.7	84.5	86.7	91.0	92.2
1600	78.7	79.7	80.3	82.5	84.3	85.3	87.3	90.4	91.2
2000	79.5	80.7	82.1	83.6	85.1	86.3	88.1	90.3	90.0
2500	79.8	80.2	81.0	83.3	85.0	86.2	87.8	89.7	87.8
3150	79.5	80.2	81.4	83.4	85.0	86.3	87.9	88.6	86.1
4000	79.8	80.2	80.8	83.1	85.4	86.7	87.4	88.3	84.6
5000	79.7	80.4	81.0	83.4	85.4	86.5	87.2	86.9	83.0
6300	78.7	79.7	80.8	82.9	84.6	85.9	86.2	85.3	81.8
8000	78.8	79.0	80.2	82.3	84.3	85.6	85.2	84.5	80.1
10000	77.7	78.6	79.2	81.4	83.3	84.0	83.8	82.9	78.2
12500	76.5	77.4	78.4	80.5	82.2	82.9	82.3	80.7	76.6
16000	75.8	76.8	77.5	79.6	81.4	82.1	80.9	79.0	74.5
20000	74.5	75.4	76.1	78.2	79.9	80.5	79.0	76.9	72.0
25000	73.5	74.6	75.5	77.5	79.5	79.2	77.5	75.6	70.3
31500	72.9	73.7	74.6	76.3	78.2	78.0	76.4	73.8	68.5
40000	72.3	73.1	74.1	75.5	77.2	77.0	75.1	72.6	67.4
50000	71.5	72.1	73.6	75.1	76.6	75.9	74.1	70.7	65.3
63000	69.9	71.1	72.5	73.8	75.5	74.9	72.1	68.1	56.9
80000	66.8	69.1	70.4	72.1	73.9	72.9	67.3	71.2	70.6
TSPL	91.4	91.8	92.6	94.5	96.2	97.2	98.4	100.7	104.3
SSPL	90.8	91.3	92.3	94.4	96.1	97.1	98.2	100.3	101.0

V_∞ =	202	fps
T_a =	57	°F
RH_a =	17	%
P_a =	14.18	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	92.4	92.3	92.8	94.3	95.7	96.2	97.1	99.2	103.6
SSPL	91.7	91.9	92.5	94.2	95.5	96.1	96.9	98.9	100.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	92.8	92.5	92.7	94.0	95.1	95.4	96.1	98.1	102.1
SSPL	92.1	92.0	92.4	93.8	94.9	95.3	95.9	97.8	98.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3611 3611

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.7	76.7	76.3	67.5	72.9	70.2	63.9	70.9	81.7
125	77.0	74.5	63.5	70.1	71.1	65.9	74.3	75.8	79.6
160	74.6	73.6	64.3	69.2	71.5	68.7	65.6	70.6	79.3
200	74.6	74.4	71.7	68.7	69.1	68.3	69.5	72.1	78.1
250	74.7	73.9	68.9	69.8	72.6	71.2	72.6	76.1	81.3
315	74.2	62.1	73.1	72.4	73.4	73.0	73.5	76.1	83.5
400	71.1	69.1	73.4	74.8	74.1	74.0	77.8	78.9	86.5
500	72.4	67.7	74.1	74.4	75.2	76.4	78.7	82.2	85.7
630	75.0	74.0	75.8	76.6	77.4	78.7	80.7	83.8	87.5
800	80.8	77.5	78.7	79.6	79.7	79.8	82.2	85.6	89.2
1000	79.1	79.3	80.4	81.6	81.4	81.3	82.8	86.1	89.5
1250	79.5	79.6	79.6	81.3	82.5	82.6	83.8	86.7	89.3
1600	80.0	80.4	80.5	82.0	83.2	83.4	84.5	86.6	88.5
2000	80.8	81.5	82.3	83.1	84.0	84.4	85.4	87.0	88.0
2500	81.1	80.9	81.2	82.9	83.9	84.4	85.2	86.7	86.8
3150	80.8	81.0	81.7	83.0	83.9	84.5	85.4	86.2	85.4
4000	81.2	80.9	81.1	82.8	84.2	84.8	85.0	85.7	84.7
5000	81.0	81.1	81.3	82.9	84.2	84.6	84.9	84.9	83.1
6300	80.0	80.4	81.0	82.4	83.4	84.1	84.0	83.5	81.6
8000	80.1	79.7	80.4	81.9	83.2	83.8	83.1	82.7	80.6
10000	79.0	79.3	79.4	81.0	82.1	82.2	81.7	81.1	78.8
12500	77.8	78.1	78.6	80.1	81.0	81.2	80.4	79.2	76.8
16000	77.1	77.5	77.7	79.2	80.3	80.4	79.0	77.6	74.9
20000	75.9	76.1	76.3	77.8	78.7	78.8	77.3	75.6	72.7
25000	74.8	75.3	75.7	77.0	78.3	77.5	75.7	74.3	71.3
31500	74.2	74.4	74.8	75.9	77.0	76.3	74.6	72.7	69.4
40000	73.6	73.9	74.3	75.1	76.1	75.4	73.4	71.5	68.3
50000	72.8	72.8	73.8	74.7	75.4	74.3	72.4	70.0	66.2
63000	71.2	71.9	72.7	73.3	74.3	73.2	70.7	68.1	61.7
80000	68.1	69.9	70.6	71.6	72.7	71.4	65.8	66.8	68.9
TSPL	92.8	92.4	92.8	94.1	95.1	95.4	95.8	97.2	98.9
SSPL	92.1	92.0	92.6	93.9	94.9	95.2	95.7	97.0	98.2

V_∞ =	202	fps
T_a =	57	°F
RH_a =	17	%
P_a =	14.18	psia

STAND XARF RIG ID VT=202 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3611 CONDITION 3611

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
	P.R.		1.31	0.0		1.31	0.0	THRUST,IDL	LB	31.7	0.0	N	141.0	0.0
	TEMP	(R)	1062.0	0.0	(K)	590.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
	RHO	LB/FT3	0.040	0.0	KG/M3	0.649	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
	VEL	FPS	972.0	0.0	M/S	296.3	0.0	W (MODEL)	LB/S	1.1	0.0	KG/S	0.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.7	76.7	76.3	67.5	72.9	70.2	63.9	70.9	81.7	93.2
.125	77.0	74.5	63.5	70.1	71.1	65.9	74.3	75.8	79.6	91.6
.160	74.6	73.6	64.3	69.2	71.5	68.7	65.6	70.6	79.3	89.9
.200	74.6	74.4	71.7	68.7	69.1	68.3	69.5	72.1	78.1	90.3
.250	74.7	73.9	68.9	69.8	72.6	71.2	72.6	76.1	81.3	91.9
.315	74.2	62.1	73.1	72.4	73.4	73.0	73.5	76.1	83.5	92.7
.400	71.1	69.1	73.4	74.0	74.1	74.0	77.8	78.9	86.5	95.0
.500	72.4	67.7	74.1	74.4	75.2	76.4	78.7	82.2	85.7	95.9
.630	75.0	74.0	75.8	76.6	77.4	78.7	80.7	83.8	87.5	97.9
.800	80.8	77.5	78.7	79.6	79.7	79.8	82.2	85.6	89.2	100.0
1.00	79.1	79.3	80.4	81.6	81.4	81.3	82.8	86.1	89.5	100.9
1.25	79.5	79.6	79.6	81.3	82.5	82.6	83.8	86.7	89.3	101.3
1.60	80.0	80.4	80.5	82.0	83.2	83.4	84.5	86.6	88.5	101.7
2.00	80.8	81.5	82.3	83.1	84.0	84.4	85.4	87.0	88.0	102.4
2.50	81.1	80.9	81.2	82.9	83.9	84.4	85.2	86.7	86.8	102.1
3.15	80.8	81.0	81.7	83.0	83.9	84.5	85.4	86.2	85.4	102.0
4.00	81.2	80.9	81.1	82.8	84.2	84.8	85.0	85.7	84.7	101.8
5.00	81.0	81.1	81.3	82.9	84.2	84.6	84.9	84.9	83.1	101.7
6.30	80.0	80.4	81.0	82.4	83.4	84.1	84.0	83.5	81.6	100.9
8.00	80.1	79.7	80.4	81.9	83.2	83.8	83.1	82.7	80.6	100.4
10.0	79.0	79.3	79.4	81.0	82.1	82.2	81.7	81.1	78.8	99.2
12.5	77.8	78.1	78.6	80.1	81.0	81.2	80.4	79.2	76.8	98.0
16.0	77.1	77.5	77.7	79.2	80.3	80.4	79.0	77.6	74.9	97.1
20.0	75.9	76.1	76.3	77.8	78.7	78.8	77.3	75.6	72.7	95.5
25.0	74.8	75.3	75.7	77.0	76.3	77.5	75.7	74.3	71.3	94.6
31.5	74.2	74.4	74.8	75.9	77.0	76.3	74.6	72.7	69.4	93.5
40.0	73.6	73.9	74.3	75.1	76.1	75.4	73.4	71.5	68.3	92.7
50.0	72.8	72.8	73.8	74.7	75.4	74.3	72.4	70.0	66.2	91.9
63.0	71.2	71.9	72.7	73.3	74.3	73.2	70.7	68.1	61.7	90.6
80.0	68.1	69.9	70.6	71.6	72.7	71.4	65.6	66.8	68.9	88.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	92.8	92.4	92.8	94.1	95.1	95.4	95.8	97.2	98.9	

OAPWL = 113.2

V_∞ =	202	fps
T_a =	57	°F
RH_a =	17	%
P_a =	14.18	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF C 3612 3612

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	80.0	87.3	81.2	92.7	93.5	82.1	91.4	96.4	103.5
125	83.2	82.5	85.6	85.7	87.8	85.2	91.6	82.3	106.0
160	81.1	81.9	82.9	83.1	85.8	84.3	90.6	81.2	103.7
200	81.7	81.6	83.9	84.2	83.6	86.0	90.6	81.4	104.6
250	84.2	84.7	85.4	85.1	87.1	85.9	83.6	92.0	104.7
315	87.0	88.1	87.6	86.9	86.7	87.3	83.2	95.4	108.6
400	87.1	86.4	86.7	86.6	88.2	88.2	93.2	96.1	109.2
500	84.1	84.3	87.0	87.5	89.2	91.1	93.2	100.9	105.4
630	89.5	88.6	89.3	89.5	90.3	92.8	97.2	102.8	107.2
800	91.8	89.4	90.0	91.8	92.9	94.4	99.4	105.7	110.1
1000	90.1	93.4	94.7	95.0	95.1	96.5	101.3	107.7	110.4
1250	93.4	95.0	94.8	95.7	98.6	100.1	103.5	110.0	111.2
1600	96.2	96.8	97.5	99.5	100.8	101.4	105.5	111.4	111.8
2000	97.0	98.3	100.1	102.1	102.4	102.6	107.2	112.8	112.6
2500	98.0	98.7	99.1	100.4	102.6	103.5	107.8	113.3	112.1
3150	98.3	98.9	100.4	101.5	102.2	104.8	108.2	113.1	112.0
4000	100.5	100.0	100.6	101.4	103.5	105.6	108.1	113.2	111.6
5000	107.2	103.6	102.8	103.6	104.8	106.3	108.6	111.9	111.1
6300	113.0	109.9	105.8	105.0	105.1	106.6	108.1	110.6	109.6
8000	112.7	112.3	110.3	107.4	106.1	107.2	107.9	109.7	108.1
10000	108.4	109.8	110.9	110.8	108.2	107.3	107.6	108.6	106.2
12500	108.7	107.0	107.4	110.6	110.5	108.9	107.3	106.9	104.4
16000	108.1	108.0	106.7	108.0	111.0	110.7	107.6	105.7	102.5
20000	107.0	106.6	106.4	107.2	109.1	110.9	107.6	104.3	100.3
25000	106.2	106.3	106.2	106.8	108.6	109.6	107.2	104.0	99.3
31500	105.6	105.6	105.6	106.1	107.3	107.3	106.1	102.7	98.3
40000	105.0	105.1	105.5	106.0	106.5	106.0	104.0	101.5	97.2
50000	104.1	104.1	104.8	105.9	105.9	105.2	103.1	100.1	96.3
63000	103.0	103.5	104.7	104.9	105.7	104.6	102.1	99.6	95.6
80000	102.4	102.7	103.8	104.6	105.2	104.2	101.8	99.3	95.6
TSPL	119.6	118.9	118.4	118.8	119.4	119.7	119.7	122.6	122.9
SSPL	119.6	118.9	118.4	118.8	119.4	119.7	119.7	122.6	122.2

V_∞ =	339	fps
T_a =	51	°F
RH_a =	40	%
P_a =	13.59	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	121.4	120.1	118.9	118.7	118.6	118.2	117.7	120.8	122.6
SSPL	121.4	120.1	118.9	118.7	118.6	118.2	117.7	120.8	121.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	122.0	120.2	118.6	118.0	117.5	116.8	116.0	118.9	120.4
SSPL	122.0	120.2	118.6	118.0	117.5	116.8	115.9	118.8	119.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3612 3612

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	82.3	88.3	82.7	93.0	91.3	79.8	84.7	89.8	93.9
125	85.6	83.9	85.9	85.0	85.9	82.4	86.9	82.7	81.2
160	83.5	83.2	83.0	82.5	83.9	81.4	86.0	81.8	80.0
200	84.1	82.9	84.2	83.1	81.7	82.9	86.6	81.7	80.3
250	86.5	85.9	85.4	84.3	85.2	83.4	80.1	81.9	90.4
315	89.4	89.3	87.5	85.8	84.8	84.7	80.0	82.9	94.1
400	89.5	87.5	86.7	85.7	86.3	85.2	88.1	89.9	94.3
500	86.5	85.7	87.3	86.7	87.3	88.2	88.6	92.2	98.3
630	91.9	89.8	89.4	88.6	88.5	89.7	92.2	95.6	100.0
800	94.1	90.4	90.4	91.1	91.1	91.3	94.2	98.2	102.9
1000	92.5	94.9	94.8	94.0	93.2	93.4	96.0	100.2	104.8
1250	95.8	96.2	94.9	95.1	96.8	97.1	98.7	102.4	106.9
1600	98.5	98.0	97.9	98.8	98.9	98.4	100.5	104.3	108.2
2000	99.4	99.7	100.6	101.3	100.5	99.7	102.1	106.0	109.5
2500	100.4	100.0	99.4	99.8	100.8	100.5	102.8	106.6	109.9
3150	100.7	100.3	100.8	100.7	100.4	101.7	103.5	106.6	109.6
4000	102.8	101.1	100.7	100.7	101.6	102.6	103.6	106.6	109.6
5000	109.6	104.4	102.8	102.8	102.9	103.3	104.3	106.3	108.3
6300	115.4	110.4	105.3	103.9	103.2	103.7	104.1	105.4	107.0
8000	115.1	113.3	109.6	105.9	104.2	104.4	104.1	104.9	106.0
10000	110.8	111.2	111.0	109.4	106.2	104.6	103.9	104.3	104.7
12500	111.0	108.0	108.0	109.8	108.5	106.3	104.2	103.2	102.9
16000	110.5	109.0	106.8	107.5	109.1	108.2	105.0	102.9	101.6
20000	109.4	107.7	106.5	106.5	107.2	108.2	105.2	102.3	100.0
25000	108.5	107.4	106.2	106.0	106.7	106.9	104.5	102.1	99.6
31500	108.0	106.7	105.7	105.3	105.4	104.6	103.1	101.0	98.4
40000	107.4	106.3	105.7	105.1	104.6	103.5	101.2	99.2	97.3
50000	106.5	105.3	105.1	105.0	104.0	102.7	100.4	98.1	95.9
63000	105.4	104.8	104.8	104.0	103.7	102.0	99.4	97.3	95.4
80000	104.8	104.0	104.0	103.7	103.3	101.7	99.1	96.9	95.1
TSPL	122.0	119.9	118.4	117.9	117.5	117.0	116.0	116.9	119.2
SSPL	122.0	119.9	118.4	117.9	117.5	117.0	115.9	116.9	119.1

V_∞ =	339	fps
T_a =	51	°F
RH_a =	40	%
P_a =	13.59	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3612 CONDITION 3612

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.53	0.0		2.53	0.0	THRUST,IDL	LB	108.9	0.0	N	484.3	0.0
TEMP	(R)		1061.0	0.0	(K)	589.4	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.048	0.0	KG/M3	0.774	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1727.0	0.0	M/S	526.4	0.0	W (MODEL)	LB/S	2.0	0.0	KG/S	0.9	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	82.3	88.3	82.7	93.0	91.3	79.8	84.7	89.8	93.9	107.5
.125	85.6	83.9	85.9	85.0	85.9	82.4	86.9	82.7	81.2	103.2
.160	83.5	83.2	83.0	82.5	83.9	81.4	86.0	81.8	80.0	101.6
.200	84.1	82.9	84.2	83.1	81.7	82.9	86.6	81.7	80.3	101.8
.250	86.5	85.9	85.4	84.3	85.2	83.4	80.1	81.9	90.4	103.3
.315	89.4	89.3	87.5	85.8	84.8	84.7	80.0	82.9	94.1	105.5
.400	89.5	87.5	86.7	85.7	86.3	85.2	88.1	89.9	94.3	106.3
.500	86.5	85.7	87.3	86.7	87.3	88.2	88.6	92.2	98.3	107.7
.630	91.9	89.8	89.4	88.6	88.5	89.7	92.2	95.6	100.0	110.3
.800	94.1	90.4	90.4	91.1	91.1	91.3	94.2	98.2	102.9	112.6
1.00	92.5	94.9	94.8	94.0	93.2	93.4	96.0	100.2	104.8	114.8
1.25	95.8	96.2	94.9	95.1	96.8	97.1	98.7	102.4	106.9	117.0
1.60	98.5	98.0	97.9	98.8	98.9	98.4	100.5	104.3	108.2	118.9
2.00	99.4	99.7	100.6	101.3	100.5	99.7	102.1	106.0	109.5	120.6
2.50	100.4	100.0	99.4	99.8	100.8	100.5	102.8	106.6	109.9	120.8
3.15	100.7	100.3	100.8	100.7	100.4	101.7	103.5	106.6	109.6	121.2
4.00	102.8	101.1	100.7	100.7	101.6	102.6	103.6	106.6	109.6	121.5
5.00	109.6	104.4	102.8	102.8	102.9	103.3	104.3	106.3	108.3	123.1
6.30	115.4	110.4	105.3	103.9	103.2	103.7	104.1	105.4	107.0	126.2
8.00	115.1	113.3	109.6	105.9	104.2	104.4	104.1	104.9	106.0	127.6
10.0	110.8	111.2	111.0	109.4	106.2	104.6	103.9	104.3	104.7	126.9
12.5	111.0	108.0	108.0	109.8	108.5	106.3	104.2	103.2	102.9	126.1
16.0	110.5	109.0	106.8	107.5	109.1	108.2	105.0	102.9	101.6	126.0
20.0	109.4	107.7	106.5	106.5	107.2	108.2	105.2	102.3	100.0	125.1
25.0	108.5	107.4	106.2	106.0	106.7	106.9	104.5	102.1	99.6	124.5
31.5	108.0	106.7	105.7	105.3	105.4	104.6	103.1	101.0	98.4	123.5
40.0	107.4	106.3	105.7	105.1	104.6	103.5	101.2	99.2	97.3	122.9
50.0	106.5	105.3	105.1	105.0	104.0	102.7	100.4	98.1	95.9	122.2
63.0	105.4	104.8	104.8	104.0	103.7	102.0	99.4	97.3	95.4	121.6
80.0	104.8	104.0	104.0	103.7	103.3	101.7	99.1	96.9	95.1	121.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	122.0	119.9	118.4	117.9	117.5	117.0	116.0	116.9	119.2	

OAPWL = 136.7

V_∞ =	339	fps
T_a =	51	°F
RH_a =	40	%
P_a =	13.59	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORI
W631 315 05/20/76 -00 000000 XARF 0 3613 361

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	82.7	79.7	89.9	92.5	93.3	90.9	91.1	96.9	103.6
125	83.7	81.8	77.7	79.8	83.5	89.7	90.4	85.4	105.9
160	81.1	78.2	84.5	74.8	80.5	89.2	89.9	83.0	104.1
200	78.0	73.9	67.6	85.5	68.6	71.3	88.1	92.8	104.8
250	79.6	80.2	77.1	77.1	80.4	77.9	87.0	86.2	104.7
315	81.6	82.0	79.4	80.0	79.9	79.5	86.0	88.8	107.7
400	80.8	80.7	79.2	80.4	81.5	82.3	85.0	90.1	108.2
500	79.7	79.1	79.4	81.2	83.3	84.8	86.5	94.5	96.0
630	83.0	82.2	82.3	83.7	84.9	87.0	90.9	96.4	99.4
800	86.1	83.4	83.7	86.2	87.4	88.6	93.2	99.0	102.2
1000	84.4	87.0	87.7	89.0	89.1	90.5	94.5	100.6	102.4
1250	86.8	88.2	87.6	89.4	91.9	93.2	96.4	102.2	102.9
1600	89.1	89.5	89.9	92.3	93.7	94.5	97.8	103.0	103.4
2000	89.7	90.9	92.2	94.2	94.9	95.6	98.9	103.4	103.7
2500	90.0	90.3	90.4	92.4	94.7	96.0	99.0	102.8	102.0
3150	89.2	90.0	91.1	92.9	94.6	96.5	99.3	101.5	100.3
4000	89.2	89.5	90.1	92.6	95.1	97.2	99.1	101.0	98.2
5000	88.9	89.6	90.5	93.4	95.7	97.7	99.3	99.7	96.4
6300	88.5	89.6	90.5	93.2	95.7	97.7	99.0	98.3	94.8
8000	88.6	88.9	90.1	93.0	95.8	96.0	98.6	97.8	93.3
10000	87.9	88.9	89.7	92.4	95.4	97.0	97.7	96.6	91.5
12500	87.3	88.0	89.2	92.1	94.4	96.3	96.2	94.6	90.2
16000	87.0	88.0	88.9	91.6	94.2	95.5	95.0	93.2	88.5
20000	86.1	86.7	87.7	90.5	93.1	94.2	93.2	91.2	86.2
25000	85.7	86.6	87.7	90.2	93.1	93.1	92.3	90.7	85.2
31500	85.3	86.1	87.4	89.4	92.1	92.3	91.4	89.2	84.4
40000	84.9	85.9	87.0	89.2	91.2	91.5	90.2	88.2	83.5
50000	84.6	85.1	86.7	89.1	90.8	90.7	89.7	87.3	82.5
63000	83.2	85.1	86.5	88.3	90.4	90.2	88.6	86.8	82.2
80000	80.5	84.2	85.7	87.5	90.1	89.7	88.0	86.5	81.1
TSPL	101.0	101.7	102.7	105.0	107.1	108.5	110.0	112.5	116.4
SSPL	100.7	101.4	102.3	104.7	106.8	108.2	109.8	112.3	112.0

V_∞ =	338	fps
T_a =	51	°F
RH_a =	58	%
P_a =	13.59	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	102.9	102.9	103.2	104.9	106.3	107.0	108.0	110.7	116.1
SSPL	102.5	102.6	102.9	104.6	106.0	106.8	107.8	110.5	111.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	103.4	103.0	103.0	104.2	105.3	105.6	106.3	108.7	113.9
SSPL	103.1	102.8	102.6	103.9	105.0	105.4	106.0	108.5	109.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3613 3613

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	85.1	81.7	91.3	91.8	91.3	88.4	87.1	89.1	94.4
125	86.1	82.4	77.7	79.4	81.7	86.5	87.2	83.0	84.1
160	83.5	79.8	83.3	73.6	78.8	85.8	86.9	81.7	81.7
200	80.3	74.1	70.2	86.8	86.4	69.1	79.2	86.7	90.9
250	81.9	81.1	76.8	76.6	78.4	75.0	81.0	82.2	84.9
315	83.9	82.9	79.3	79.1	78.0	76.5	80.5	82.4	87.7
400	83.2	81.6	79.3	79.6	79.6	79.4	80.4	82.1	89.0
500	82.1	80.2	79.7	80.7	81.4	81.9	82.0	85.8	91.5
630	85.4	83.3	82.6	82.9	83.0	84.0	86.0	89.4	93.5
800	88.5	84.4	84.2	85.6	85.5	85.6	88.1	91.6	96.1
1000	86.8	88.4	88.0	88.1	87.2	87.5	89.5	93.2	97.5
1250	89.2	89.4	87.8	88.8	90.0	90.2	91.7	95.1	99.0
1600	91.5	90.7	90.4	91.7	91.8	91.6	93.1	96.3	99.7
2000	92.1	92.2	92.7	93.5	93.6	92.6	94.2	97.1	100.1
2500	92.3	91.4	90.7	91.9	92.8	93.0	94.4	97.0	99.3
3150	91.5	91.3	91.5	92.2	92.7	93.5	94.9	96.6	97.9
4000	91.5	90.7	90.6	92.1	93.3	94.3	95.0	96.3	97.1
5000	91.2	90.9	91.0	92.9	93.9	94.7	95.4	95.9	95.7
6300	90.9	90.9	91.1	92.8	93.8	94.8	95.2	95.2	94.2
8000	91.0	90.2	90.7	92.6	94.0	95.1	95.0	94.8	93.6
10000	90.3	90.1	90.2	92.0	93.5	94.1	94.1	93.7	92.3
12500	89.6	89.3	89.8	91.6	92.6	93.5	92.9	92.0	90.4
16000	89.4	89.3	89.5	91.2	92.3	92.7	91.8	90.7	88.9
20000	88.5	87.9	88.3	90.1	91.2	91.4	90.1	88.8	86.9
25000	88.0	87.9	88.2	89.8	91.2	90.5	89.1	88.1	86.3
31500	87.6	87.4	87.8	88.9	90.2	89.6	88.3	86.9	84.9
40000	87.3	87.3	87.5	88.7	89.4	88.9	87.2	85.7	83.9
50000	86.9	86.5	87.3	88.5	88.9	88.1	86.6	85.1	83.0
63000	85.6	86.5	86.9	87.7	88.5	87.6	85.6	84.1	82.5
80000	82.9	85.7	86.1	87.0	88.2	87.1	85.0	83.7	82.1
TSPL	103.4	102.9	103.2	104.5	105.3	105.6	106.0	107.1	109.1
SSPL	103.1	102.7	102.8	104.1	105.0	105.4	105.7	107.0	108.7

V_∞ =	338	fps
T_a =	51	°F
RH_a =	58	%
P_a =	13.59	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=338 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3613 CONDITION 3613

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.81	0.0		1.81	0.0	THRUST,IDL	LB	72.4	0.0	N	322.1	0.0
TEMP	(R)		1058.0	0.0	(K)	587.8	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.044	0.0	KG/M3	0.710	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1413.0	0.0	M/S	430.7	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10-OFT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.1	81.7	91.3	91.8	91.3	88.4	87.1	89.1	94.4	108.1
.125	86.1	82.4	77.7	79.4	81.7	86.5	87.2	83.0	84.1	102.0
.160	83.5	79.8	83.3	73.6	78.8	85.8	86.9	81.7	81.7	101.2
.200	80.3	74.1	70.2	86.8	86.4	69.1	79.2	86.7	90.9	102.1
.250	81.9	81.1	76.8	76.6	78.4	75.0	81.0	82.2	84.9	98.2
.315	83.9	82.9	79.3	79.1	78.0	76.5	80.5	82.4	87.7	99.6
.400	83.2	81.6	79.3	79.6	79.6	79.4	80.4	82.1	89.0	99.8
.500	82.1	80.2	79.7	80.7	81.4	81.9	82.0	85.8	91.5	101.4
.630	85.4	83.3	82.6	82.9	83.0	84.0	86.0	89.4	93.5	104.1
.800	88.5	84.4	84.2	85.6	85.5	85.6	88.1	91.8	96.1	106.4
1.00	86.8	88.4	88.0	88.1	87.2	87.5	89.5	93.2	97.5	108.1
1.25	89.2	89.4	87.8	88.8	90.0	90.2	91.7	95.1	99.0	109.8
1.60	91.5	90.7	90.4	91.7	91.8	91.6	93.1	96.3	99.7	111.3
2.00	92.1	92.2	92.7	93.5	93.0	92.6	94.2	97.1	100.1	112.4
2.50	92.3	91.4	90.7	91.9	92.8	93.0	94.4	97.0	99.3	111.9
3.15	91.5	91.3	91.5	92.2	92.7	93.5	94.9	96.6	97.9	111.9
4.00	91.5	90.7	90.6	92.1	93.3	94.3	95.0	96.3	97.1	111.8
5.00	91.2	90.9	91.0	92.9	93.9	94.7	95.4	95.9	95.7	111.9
6.30	90.9	90.9	91.1	92.8	93.8	94.8	95.2	95.2	94.2	111.7
8.00	91.0	90.2	90.7	92.6	94.0	95.1	95.0	94.8	93.6	111.6
10.0	90.3	90.1	90.2	92.0	93.5	94.1	94.1	93.7	92.3	110.8
12.5	89.6	89.3	89.8	91.6	92.6	93.5	92.9	92.0	90.4	109.9
16.0	89.4	89.3	89.5	91.2	92.3	92.7	91.8	90.7	88.9	109.3
20.0	88.5	87.9	88.3	90.1	91.2	91.4	90.1	88.8	86.9	108.0
25.0	88.0	87.9	88.2	89.8	91.2	90.5	89.1	88.1	86.3	107.6
31.5	87.6	87.4	87.8	88.9	90.2	89.6	88.3	86.9	84.9	106.8
40.0	87.3	87.3	87.5	88.7	89.4	88.9	87.2	85.7	83.9	106.2
50.0	86.9	86.5	87.3	88.5	88.9	88.1	86.6	85.1	83.0	105.7
63.0	85.6	86.5	86.9	87.7	88.5	87.6	85.6	84.1	82.5	105.1
80.0	82.9	85.7	86.1	87.0	88.2	87.1	85.0	83.7	82.1	104.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	103.4	102.9	103.2	104.5	105.3	105.6	106.0	107.2	109.1	OAPWL = 123.4

V_∞ =	338	fps
T_a =	51	°F
RH_a =	58	%
P_a =	13.59	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/20/76 -00 000000 XARF 0 3614 3614

F DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	82.7	80.4	89.8	92.5	93.4	91.2	91.8	96.3	103.4
125	83.2	81.0	74.6	72.6	84.5	73.5	91.1	94.6	105.7
160	79.8	78.2	84.0	86.3	78.1	89.2	90.3	93.6	103.8
200	74.7	76.3	83.5	85.3	88.6	87.2	87.6	91.7	105.1
250	78.8	75.8	65.0	83.3	75.8	74.0	86.3	90.7	104.7
315	76.8	78.3	63.5	70.8	77.5	73.1	85.0	89.3	107.5
400	76.9	76.7	70.0	71.5	76.4	74.6	84.8	88.3	108.2
500	75.3	74.8	68.3	70.5	78.7	76.3	83.8	79.3	96.7
630	75.3	74.9	72.1	72.6	77.9	77.7	83.8	83.6	90.9
800	76.7	75.1	72.9	75.1	78.8	78.8	78.1	84.8	90.4
1000	75.8	76.1	75.5	77.9	78.8	79.9	79.7	85.7	83.5
1250	76.0	76.5	75.6	77.5	80.4	81.5	81.0	86.3	83.0
1600	76.8	76.4	76.3	79.2	81.1	81.7	82.0	85.8	82.4
2000	76.7	77.6	78.1	80.2	81.8	82.6	83.0	85.5	82.0
2500	77.2	76.9	77.6	79.4	81.7	82.6	83.2	85.1	79.7
3150	76.6	76.8	78.0	80.0	81.5	82.6	83.2	84.6	79.1
4000	77.0	76.8	77.0	79.5	81.9	83.1	82.5	83.7	77.9
5000	76.4	76.8	77.2	79.9	82.0	82.8	82.3	82.3	76.5
6300	75.6	76.1	76.9	79.6	81.3	82.3	81.0	80.7	74.7
8000	75.3	75.4	76.3	78.7	81.1	82.0	79.7	79.8	72.4
10000	74.2	74.9	75.2	77.9	80.1	80.7	77.3	78.4	67.0
12500	73.0	73.9	74.9	77.0	79.2	79.5	75.5	76.3	77.7
16000	72.8	73.5	73.8	76.3	78.4	78.6	75.2	74.5	76.9
20000	71.7	72.4	73.0	75.0	77.3	77.2	73.2	73.0	75.1
25000	69.8	72.2	72.8	74.3	78.5	76.3	71.1	72.3	74.4
31500	68.4	71.5	74.4	73.2	77.9	76.6	71.4	73.9	73.6
40000	66.1	74.0	74.3	72.7	77.9	76.3	70.7	73.8	74.1
50000	75.7	67.4	74.7	68.6	76.9	76.1	63.5	74.6	76.1
63000	78.2	76.8	76.3	76.0	78.6	72.1	76.2	72.7	79.4
80000	81.4	78.8	78.0	80.2	79.2	76.1	78.3	75.0	83.3
TSPL	92.0	91.2	93.7	96.2	97.5	97.2	99.0	102.4	114.4
SSPL	89.5	89.2	89.3	91.3	93.6	93.8	93.8	95.6	99.4

V_∞ =	337	fps
T_a =	51	°F
RH_a =	62	%
P_a =	13.60	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3614 3614

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	93.8	92.4	94.2	96.1	96.7	95.7	97.0	100.6	114.2
SSPL	91.3	90.4	89.8	91.1	92.8	92.4	91.8	93.8	99.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	94.4	92.5	93.9	95.4	95.7	94.3	95.2	98.6	112.0
SSPL	91.9	90.5	89.5	90.5	91.7	91.0	90.1	91.8	96.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3614 3614

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	85.1	82.3	91.1	91.9	91.4	88.6	87.7	89.2	93.8
125	85.6	81.4	73.5	73.1	82.6	70.8	82.3	89.3	92.6
160	82.2	79.8	85.0	84.3	76.3	85.6	86.6	87.1	91.4
200	77.1	78.3	84.5	84.9	86.7	84.6	83.7	84.4	90.0
250	81.2	75.5	67.4	83.0	73.7	70.8	79.1	84.2	89.1
315	79.2	78.0	63.3	71.4	75.6	70.1	77.8	82.5	88.2
400	79.3	77.2	69.6	71.3	74.5	71.5	78.3	81.7	87.4
500	77.7	75.2	66.0	70.8	76.9	73.4	78.5	77.4	77.7
630	77.7	75.7	71.9	72.3	76.1	74.7	78.7	79.8	80.9
800	79.1	75.9	73.0	74.8	76.9	76.1	74.3	76.4	82.2
1000	78.2	77.2	75.9	77.2	76.9	77.1	75.8	78.3	82.1
1250	78.4	77.6	75.8	77.0	78.5	78.7	77.3	79.4	82.5
1600	79.1	77.5	76.8	78.7	79.2	78.9	78.1	79.9	82.0
2000	79.1	78.8	78.5	79.6	80.0	79.8	79.2	80.4	81.6
2500	79.5	78.1	77.4	78.9	79.8	79.8	79.4	80.5	80.9
3150	79.0	78.1	78.4	79.4	79.7	79.8	79.5	80.0	79.9
4000	79.4	78.0	77.5	79.0	80.0	80.3	79.1	79.5	79.4
5000	78.8	78.0	77.7	79.4	80.1	80.1	79.0	78.8	78.0
6300	77.9	77.4	77.4	79.1	79.4	79.6	77.9	77.3	76.3
8000	77.7	76.6	76.8	78.2	79.2	79.4	76.8	76.1	75.3
10000	76.5	76.1	75.7	77.4	78.2	78.1	74.7	74.4	73.5
12500	75.4	75.2	75.3	76.5	77.3	77.0	73.0	71.5	72.9
16000	75.2	74.8	74.3	75.8	76.5	76.0	72.7	70.5	71.1
20000	74.0	73.7	73.4	74.5	75.4	74.7	70.8	68.7	69.6
25000	72.2	73.5	73.1	74.0	76.6	74.0	68.8	67.0	69.0
31500	70.8	73.2	74.4	72.7	76.0	74.2	69.1	68.0	70.4
40000	68.4	75.8	74.0	72.2	76.1	74.0	68.4	67.5	70.4
50000	78.1	68.8	74.2	68.5	77.1	74.3	62.5	62.8	71.8
63000	80.5	77.7	76.5	77.2	76.6	69.6	71.6	70.7	69.7
80000	83.8	79.7	78.3	79.2	77.2	75.5	74.9	72.5	72.3
TSPL	94.4	92.3	94.5	95.5	95.6	94.4	94.3	96.2	100.1
SSPL	91.9	90.3	89.6	90.7	91.7	91.1	90.0	90.6	92.0

V_{∞} =	337	fps
T_a =	51	°F
RH_a =	62	%
P_a =	13.60	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=337 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3614 CONDITION 3614

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.31	0.0		1.31	0.0	THRUST,IDL	LB		30.9	0.0	N	137.4	0.0
TEMP	(R)		1074.0	0.0	(K)	596.7	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.040	0.0	KG/M3	0.641	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		975.0	0.0	M/S	297.2	0.0	W (MODEL)	LB/S		1.0	0.0	KG/S	0.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.1	82.3	91.1	91.9	91.4	88.6	87.7	89.2	93.8	108.1
.125	85.6	81.4	73.5	73.1	82.6	76.8	82.3	89.3	92.6	102.2
.160	82.2	79.8	85.0	84.3	76.3	85.6	86.6	87.1	91.4	103.2
.200	77.1	78.3	84.5	84.9	86.7	84.6	83.7	84.4	90.0	102.9
.250	81.2	75.5	67.4	83.0	73.7	76.8	79.1	84.2	89.1	98.8
.315	79.2	78.0	63.3	71.4	75.6	70.1	77.8	82.5	88.2	96.9
.400	79.3	77.2	69.6	71.3	74.5	71.5	78.3	81.7	87.4	96.4
.500	77.7	75.2	66.0	70.8	76.9	73.4	78.5	77.4	77.7	93.9
.630	77.7	75.7	71.9	72.3	76.1	74.7	78.7	79.8	80.9	94.8
.800	79.1	75.9	73.0	74.8	76.9	76.1	74.3	76.4	82.2	94.7
1.00	78.2	77.2	75.9	77.2	76.9	77.1	75.8	78.3	82.1	95.7
1.25	78.4	77.6	75.8	77.0	78.5	78.7	77.3	79.4	82.5	96.5
1.60	79.1	77.5	76.8	78.7	79.2	78.9	78.1	79.9	82.0	97.0
2.00	79.1	78.8	78.5	79.6	80.0	79.8	79.2	80.4	81.6	97.8
2.50	79.5	78.1	77.4	78.9	79.8	79.8	79.4	80.5	80.9	97.5
3.15	79.0	78.1	78.4	79.4	79.7	79.8	79.5	80.0	79.9	97.6
4.00	79.4	78.0	77.5	79.0	80.0	80.3	79.1	79.5	79.4	97.4
5.00	78.8	78.0	77.7	79.4	80.1	80.1	79.0	78.8	78.0	97.3
6.30	77.9	77.4	77.4	79.1	79.4	79.6	77.9	77.3	76.3	96.6
8.00	77.7	76.6	76.8	78.2	79.2	79.4	76.8	76.1	75.3	96.0
10.0	76.5	76.1	75.7	77.4	78.2	78.1	74.7	74.4	73.5	94.9
12.5	75.4	75.2	75.3	76.5	77.3	77.0	73.0	71.5	72.9	93.9
16.0	75.2	74.8	74.3	75.8	76.5	76.0	72.7	70.5	71.1	93.1
20.0	74.0	73.7	73.4	74.5	75.4	74.7	70.8	68.7	69.6	91.9
25.0	72.2	73.5	73.1	74.0	76.6	74.0	68.8	67.0	69.0	91.7
31.5	70.8	73.2	74.4	72.7	76.0	74.2	69.1	68.0	70.4	91.5
40.0	68.4	75.8	74.0	72.2	76.1	74.0	68.4	67.5	70.4	91.8
50.0	78.1	68.8	74.2	68.5	77.1	74.3	62.5	62.8	71.8	91.6
63.0	80.5	77.7	76.5	77.2	76.6	69.6	71.6	70.7	69.7	94.4
80.0	83.8	79.7	78.3	79.2	77.2	75.5	74.9	72.5	72.3	96.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 113.4
OSPL	94.4	92.3	94.5	95.5	95.6	94.4	94.3	96.2	100.1	

V_∞ =	337	fps
T_a =	51	°F
RH_a =	62	%
P_a =	13.60	psia

A1-24

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/20/76		-00 000000	XARF 0	3615 3615

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	84.1	82.7	85.3	85.5	85.9	81.0	92.7	96.9	103.3
125	84.9	86.4	89.0	90.0	89.5	88.0	92.8	90.6	105.8
160	83.1	86.4	85.6	87.9	88.7	87.7	92.1	91.6	104.5
200	84.3	85.2	87.3	88.7	88.0	90.2	89.2	91.1	104.9
250	87.7	89.8	89.5	90.6	92.4	90.2	91.8	96.9	105.2
315	92.2	93.2	92.5	91.9	91.1	92.0	90.1	99.5	109.6
400	92.5	90.9	90.5	91.2	92.8	92.3	97.7	100.0	107.1
500	88.5	88.9	90.8	92.1	93.9	95.8	97.5	105.2	111.3
630	94.5	93.3	92.6	93.8	94.5	96.8	101.0	107.0	112.2
800	96.2	93.5	93.3	95.9	96.8	98.4	103.3	109.9	115.4
1000	94.1	97.4	98.5	99.0	99.2	100.2	105.0	112.0	115.8
1250	97.7	99.4	98.7	99.7	102.7	103.9	107.4	114.2	116.5
1600	100.5	101.6	101.6	104.0	105.1	105.2	109.4	116.2	117.3
2000	102.1	102.8	104.3	106.8	106.8	106.5	111.4	117.8	118.3
2500	103.7	104.1	103.6	104.7	107.3	107.4	112.0	118.5	117.7
3150	108.9	107.0	106.9	108.1	107.9	109.7	112.9	118.8	117.9
4000	117.8	113.2	109.7	108.9	109.3	110.3	112.9	119.4	117.2
5000	119.8	119.2	114.2	111.4	110.4	110.4	113.1	118.7	116.6
6300	114.5	116.9	118.7	116.6	112.7	111.8	113.2	117.8	115.0
8000	114.7	112.7	114.6	118.7	116.5	114.1	113.7	117.3	113.1
10000	114.6	114.3	111.8	114.8	118.0	115.6	114.0	116.0	111.3
12500	113.6	113.0	113.5	113.4	116.8	117.5	114.7	114.4	110.2
16000	113.3	113.2	112.3	114.1	115.5	118.4	115.4	113.5	109.1
20000	112.3	112.1	111.9	112.7	114.5	116.8	114.6	112.4	107.2
25000	111.6	111.7	111.7	112.7	114.2	114.8	113.5	112.1	106.6
31500	111.1	111.4	111.3	112.2	113.4	113.8	112.4	110.5	105.8
40000	110.7	111.0	111.3	112.3	113.1	113.2	111.4	109.4	105.1
50000	110.1	110.5	111.1	112.6	113.1	112.7	111.1	108.7	104.6
63000	109.9	110.5	111.4	112.3	113.3	112.8	111.0	108.8	104.5
80000	109.8	110.2	110.9	112.5	113.4	112.9	111.3	109.0	105.4
TSPL	125.9	125.4	124.8	125.6	126.2	126.4	125.6	128.8	128.0
SSPL	125.9	125.3	124.8	125.6	126.2	126.4	125.6	126.8	127.8

V_∞ =	342	fps
T_a =	50	°F
RH_a =	68	%
P_a =	13.57	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3615 3615

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	127.7	126.6	125.4	125.5	125.3	124.9	123.7	127.0	127.7
SSPL	127.7	126.5	125.4	125.5	125.3	124.9	123.6	127.0	127.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	128.2	126.7	125.1	124.8	124.3	123.5	121.9	125.0	125.5
SSPL	128.2	126.7	125.1	124.8	124.3	123.5	121.9	125.0	125.3

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3615 3615

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	86.5	84.1	85.6	84.6	83.9	78.1	85.6	91.0	94.3
125	87.2	87.9	89.4	89.0	87.6	85.2	88.1	87.3	88.8
160	85.5	87.7	85.9	87.2	86.8	84.9	87.4	87.4	89.6
200	86.6	86.6	87.7	87.7	86.1	87.4	85.9	85.0	89.3
250	90.1	91.1	89.6	90.0	90.5	87.6	87.4	89.4	94.6
315	94.6	94.4	92.3	90.7	89.2	89.3	86.5	89.1	97.6
400	94.9	91.9	90.6	90.5	90.9	89.4	92.5	94.6	97.4
500	90.8	90.2	91.2	91.4	92.0	92.9	93.1	96.4	102.8
630	96.9	94.3	92.8	92.9	92.7	93.7	96.0	99.5	104.3
800	98.5	94.5	93.8	95.3	95.0	95.3	98.0	102.1	107.3
1000	96.5	98.9	98.7	98.0	97.3	97.2	99.7	104.1	109.2
1250	100.0	100.6	98.8	99.2	100.9	100.9	102.5	106.4	111.2
1600	102.9	102.8	102.0	103.4	103.2	102.3	104.3	108.5	113.1
2000	104.5	104.2	104.9	106.0	104.9	103.6	106.1	110.5	114.6
2500	106.1	105.3	103.8	104.2	105.5	104.5	106.8	111.2	115.2
3150	111.2	108.0	107.1	107.1	106.0	106.6	108.1	111.7	115.3
4000	120.1	113.6	109.2	107.8	107.4	107.4	108.2	112.0	115.8
5000	122.2	119.8	113.2	109.9	106.4	107.5	108.5	111.8	115.1
6300	116.9	118.4	118.5	114.8	110.7	109.1	109.0	111.5	114.1
8000	117.1	113.9	115.6	117.8	114.5	111.6	110.0	111.5	113.4
10000	117.0	115.2	112.1	114.5	116.1	113.2	110.7	111.1	111.9
12500	115.9	114.1	113.5	112.8	114.9	114.8	111.9	110.7	110.2
16000	115.7	114.2	112.5	113.4	113.7	115.6	112.9	110.8	109.3
20000	114.7	113.2	112.0	112.0	112.6	114.0	111.9	110.0	108.0
25000	113.9	112.8	111.8	111.9	112.3	112.1	110.4	109.3	107.7
31500	113.5	112.5	111.4	111.4	111.5	111.1	109.4	107.9	106.2
40000	113.1	112.2	111.5	111.5	111.2	110.6	108.5	106.9	105.2
50000	112.5	111.8	111.4	111.8	111.2	110.1	108.2	106.4	104.5
63000	112.2	111.7	111.6	111.4	111.3	110.2	108.1	106.3	104.5
80000	112.2	111.5	111.2	111.7	111.5	110.3	108.4	106.6	104.8
TSPL	128.2	126.4	124.9	124.7	124.3	123.7	122.1	122.9	125.2
SSPL	128.2	126.4	124.9	124.7	124.2	123.7	122.1	122.9	125.2

V_∞ =	342	fps
T_a =	50	°F
RH_a =	68	%
P_a =	13.57	psia

STAND XARF RIG ID VT=342 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3615 CONDITION 3615

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			3.23	0.0		3.23	0.0	THRUST,IDL	LB		158.8	0.0	N	706.3	0.0
TEMP	(R)		1066.0	0.0	(K)	592.2	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.051	0.0	KG/M3	0.823	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1915.0	0.0	M/S	583.7	0.0	W (MODEL)	LB/S		2.7	0.0	KG/S	1.2	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.5	84.1	85.6	84.6	83.9	78.1	85.6	91.0	94.3	105.0
.125	87.2	87.9	89.4	89.0	87.6	85.2	88.1	87.3	88.8	106.3
.160	85.5	87.7	85.9	87.2	86.8	84.9	87.4	87.4	89.6	105.2
.200	86.6	86.6	87.7	87.7	86.1	87.4	85.9	85.0	89.3	105.2
.250	90.1	91.1	89.6	90.0	90.5	87.6	87.4	89.4	94.6	108.3
.315	94.6	94.4	92.3	90.7	89.2	89.3	86.5	89.1	97.6	110.3
.400	94.9	91.9	90.6	90.5	90.9	89.4	92.5	94.6	97.4	110.6
.500	90.8	90.2	91.2	91.4	92.0	92.9	93.1	96.4	102.8	112.2
.630	96.9	94.3	92.8	92.9	92.7	93.7	96.0	99.5	104.3	114.5
.800	98.5	94.5	93.8	95.3	95.0	95.3	98.0	102.1	107.3	116.7
1.00	96.5	98.9	98.7	98.0	97.3	97.2	99.7	104.1	109.2	118.9
1.25	100.0	100.6	98.8	99.2	100.9	100.9	102.5	106.4	111.2	121.1
1.60	102.9	102.8	102.0	103.4	103.2	102.3	104.3	108.5	113.1	123.3
2.00	104.5	104.2	104.9	106.0	104.9	103.6	106.1	110.5	114.6	125.2
2.50	106.1	105.3	103.8	104.2	105.5	104.5	106.8	111.2	115.2	125.6
3.15	111.2	108.0	107.1	107.1	106.0	106.6	108.1	111.7	115.3	127.2
4.00	120.1	113.6	109.2	107.8	107.4	107.4	108.2	112.0	115.8	130.7
5.00	122.2	119.8	113.2	109.9	108.4	107.5	108.5	111.8	115.1	133.7
6.30	116.9	118.4	118.5	114.8	110.7	109.1	109.0	111.5	114.1	133.6
8.00	117.1	113.9	115.6	117.8	114.5	111.6	110.0	111.5	113.4	133.0
10.0	117.0	115.2	112.1	114.5	116.1	113.2	110.7	111.1	111.9	132.4
12.5	115.9	114.1	113.5	112.8	114.9	114.8	111.9	110.7	110.2	132.0
16.0	115.7	114.2	112.5	113.4	113.7	115.6	112.9	110.8	109.3	132.0
20.0	114.7	113.2	112.0	112.0	112.6	114.0	111.9	110.0	108.0	130.9
25.0	113.9	112.8	111.8	111.9	112.3	112.1	110.4	109.3	107.7	130.2
31.5	113.5	112.5	111.4	111.4	111.5	111.1	109.4	107.9	106.2	129.5
40.0	113.1	112.2	111.5	111.5	111.2	110.6	108.5	106.9	105.2	129.2
50.0	112.5	111.8	111.4	111.8	111.2	110.1	108.2	106.4	104.5	129.0
63.0	112.2	111.7	111.6	111.4	111.3	110.2	108.1	106.3	104.5	129.0
80.0	112.2	111.5	111.2	111.7	111.5	110.3	108.4	106.6	104.8	129.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	128.3	126.4	124.9	124.7	124.3	123.7	122.1	122.9	125.2	

OAPWL = 143.2

V_∞ =	342	fps
T_a =	50	°F
RH_a =	68	%
P_a =	13.57	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/20/76		-00 000000	XARF 0	3616 3616

D8TF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	84.5	83.8	86.8	88.1	85.9	84.8	92.9	80.8	103.6
125	85.7	86.7	90.2	91.2	90.4	88.7	93.4	92.4	105.9
160	84.8	87.2	87.1	89.1	89.2	88.9	92.4	93.4	93.4
200	86.0	86.5	88.9	90.1	89.0	91.8	91.5	92.9	105.5
250	88.9	91.0	91.0	91.9	93.0	91.5	94.1	98.6	105.6
315	93.4	94.4	93.4	93.2	92.0	93.1	96.0	101.5	110.4
400	93.8	92.2	91.5	92.3	93.9	93.8	99.2	102.1	109.8
500	89.9	90.2	92.2	93.8	95.1	97.3	99.3	106.8	112.7
630	95.6	94.6	94.1	95.4	95.8	98.3	103.3	109.2	113.8
800	97.4	95.1	94.9	97.3	98.5	100.2	105.3	111.8	116.6
1000	95.4	98.7	99.8	100.7	100.9	102.3	107.5	114.2	117.2
1250	99.0	100.8	100.4	101.5	104.6	106.0	109.9	116.5	117.7
1600	101.5	103.1	103.0	105.6	106.9	107.1	112.3	118.4	118.4
2000	103.1	104.2	106.0	108.5	108.8	108.6	114.7	120.2	119.1
2500	105.0	105.7	105.2	106.1	109.1	109.8	115.8	121.3	118.5
3150	108.3	107.6	106.0	109.1	109.4	111.6	116.8	121.6	118.9
4000	116.4	112.3	109.8	109.8	110.9	112.5	117.0	122.4	118.2
5000	120.4	118.2	113.2	111.5	111.9	113.0	117.5	121.8	117.5
6300	116.1	118.4	118.6	115.5	113.2	113.8	117.4	120.6	116.0
8000	114.7	113.9	117.0	119.0	116.2	115.4	117.4	119.9	114.4
10000	115.2	114.2	113.0	117.2	118.2	116.2	117.0	118.4	112.6
12500	113.9	114.0	113.9	114.6	116.5	117.8	116.9	116.7	111.6
16000	113.8	113.6	113.5	115.0	117.5	118.6	116.7	115.6	110.5
20000	112.7	112.7	112.6	114.0	116.2	118.0	115.9	114.3	108.5
25000	112.2	112.5	112.5	113.7	116.0	116.5	115.3	113.9	108.2
31500	111.7	112.0	112.2	113.0	115.1	115.4	114.5	112.7	107.4
40000	111.3	111.7	112.1	113.1	114.5	114.7	113.5	111.8	106.7
50000	110.9	111.3	111.9	113.6	114.4	114.4	113.3	111.1	106.3
63000	110.5	111.3	112.2	113.2	114.5	114.4	113.1	111.0	106.1
80000	110.6	111.0	111.9	113.3	114.6	114.6	113.3	111.1	106.8
TSPL	126.2	125.7	125.5	126.4	127.4	127.6	128.5	131.4	129.1
SSPL	126.2	125.7	125.5	126.4	127.4	127.6	128.5	131.4	128.9

V_∞ =	339	fps
T_a =	50	°F
RH_a =	69	%
P_a =	13.59	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/20/76 -00 000000 XARF 0 3616 3616

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	128.1	126.9	126.1	126.3	126.5	126.2	126.5	129.6	128.8
SSPL	128.1	126.9	126.1	126.2	126.5	126.2	126.5	129.6	128.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	128.6	127.1	125.8	125.6	125.5	124.8	124.7	127.6	126.6
SSPL	128.6	127.1	125.8	125.6	125.5	124.8	124.7	127.6	126.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3616 3616

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	86.9	85.2	87.3	86.9	83.9	81.8	88.0	83.1	79.4
125	88.0	88.3	90.7	90.1	88.4	85.9	88.6	88.5	90.4
160	87.1	88.5	87.4	88.2	87.2	86.0	87.9	89.2	89.9
200	88.4	87.9	89.4	89.0	87.1	88.9	88.0	87.2	90.9
250	91.3	92.3	91.1	91.2	91.6	88.8	89.6	91.7	96.1
315	95.7	95.5	93.3	91.9	90.0	90.4	88.2	91.2	99.5
400	96.1	93.1	91.6	91.5	92.0	90.8	94.0	96.3	99.6
500	92.2	91.5	92.6	93.0	93.2	94.3	94.8	98.2	104.3
630	97.9	95.7	94.3	94.5	95.9	95.2	98.1	101.6	106.5
800	99.7	96.1	95.3	96.6	96.6	97.1	100.0	104.1	109.1
1000	97.8	100.2	100.1	99.8	99.0	99.2	102.2	106.5	111.3
1250	101.4	102.0	100.5	101.0	102.8	103.0	104.9	108.9	113.4
1600	103.9	104.4	103.5	105.0	105.0	104.1	107.0	111.3	115.1
2000	105.5	105.6	106.6	107.8	106.9	105.8	109.2	113.6	116.8
2500	107.4	106.9	105.3	105.6	107.3	106.8	110.4	114.9	117.7
3150	110.6	108.7	106.2	108.1	107.5	108.4	111.6	115.4	117.9
4000	118.7	112.9	109.5	108.9	109.0	109.4	111.9	115.9	118.5
5000	122.8	118.7	112.4	110.3	110.0	110.0	112.5	116.0	117.9
6300	118.5	119.8	118.1	113.8	111.3	110.9	112.7	115.4	116.6
8000	117.1	115.4	117.7	117.8	114.2	112.7	113.2	115.1	115.8
10000	117.6	115.1	113.6	116.7	116.3	113.6	113.1	114.1	114.1
12500	116.2	115.1	113.9	114.1	116.6	115.2	113.6	113.2	112.4
16000	116.2	114.7	113.7	114.4	115.7	116.1	113.9	112.5	111.3
20000	115.1	113.8	112.8	113.4	114.3	115.2	113.1	111.6	109.9
25000	114.5	113.6	112.7	113.1	114.1	113.6	112.2	111.1	109.5
31500	114.1	113.2	112.3	112.3	113.2	112.7	111.3	110.1	108.3
40000	113.7	112.9	112.3	112.4	112.6	112.1	110.5	109.2	107.5
50000	113.3	112.6	112.3	112.8	112.5	111.8	110.3	108.8	106.6
63000	112.8	112.6	112.4	112.4	112.6	111.7	110.0	108.5	106.6
80000	113.0	112.3	112.2	112.6	112.7	112.0	110.3	108.7	106.9
TSPL	128.6	126.8	125.6	125.5	125.5	124.9	124.5	126.0	127.6
SSPL	128.6	126.8	125.6	125.5	125.5	124.9	124.5	126.0	127.6

V_∞ =	339	fps
T_a =	50	°F
RH_a =	69	%
P_a =	13.59	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID V1=339 TEST DATE 05/20/76 SCALE RATIO 0.0/1 RUN NUMBER 3616 CONDITION 3616

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		3.22	0.0		3.22	0.0	THRUST,IDL	LB	159.5	0.0	N	709.6	0.0
TEMP	(R)	1264.0	0.0	(K)	702.2	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.043	0.0	KG/M3	0.688	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	2088.0	0.0	M/S	636.4	0.0	W (MODEL)	LB/S	2.5	0.0	KG/S	1.1	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.9	85.2	87.3	86.9	83.9	81.8	88.0	83.1	79.4	104.0
.125	88.0	88.3	90.7	90.1	88.4	85.4	88.0	88.5	90.4	107.2
.160	87.1	88.5	87.4	88.2	87.2	86.0	87.9	89.2	89.9	106.2
.200	88.4	87.9	89.4	89.0	87.1	88.9	88.0	87.2	90.9	106.8
.250	91.3	92.3	91.1	91.2	91.6	88.8	89.6	91.7	96.1	109.7
.315	95.7	95.5	93.3	91.9	90.0	90.4	88.2	91.2	99.5	111.5
.400	96.1	93.1	91.6	91.5	92.0	90.6	94.0	96.3	99.6	112.1
.500	92.2	91.5	92.6	93.0	93.2	94.3	94.8	98.2	104.3	113.7
.630	97.9	95.7	94.3	94.5	93.9	95.2	98.1	101.8	106.5	116.3
.800	99.7	96.1	95.3	96.6	96.6	97.1	100.0	104.1	109.1	118.4
1.00	97.8	100.2	100.1	99.8	99.0	99.2	102.2	106.5	111.3	120.9
1.25	101.4	102.0	100.5	101.0	102.8	103.0	104.9	108.9	113.4	123.2
1.60	103.9	104.4	103.5	105.0	105.0	104.1	107.0	111.3	115.1	125.4
2.00	105.5	105.6	106.6	107.8	106.9	105.8	109.2	113.6	116.8	127.5
2.50	107.4	106.9	105.3	105.6	107.3	106.8	110.4	114.9	117.7	128.2
3.15	110.6	108.7	108.2	108.1	107.5	108.4	111.6	115.4	117.9	129.3
4.00	118.7	112.9	109.5	108.9	109.0	109.4	111.9	115.9	118.5	131.4
5.00	122.8	118.7	112.4	110.3	110.0	110.0	112.5	116.0	117.9	134.1
6.30	118.5	119.8	118.1	113.8	111.3	110.9	112.7	115.4	116.6	134.5
8.00	117.1	115.4	117.7	117.8	114.2	112.7	113.2	115.1	115.8	134.1
10.0	117.6	115.1	113.6	116.7	116.3	113.6	113.1	114.1	114.1	133.5
12.5	116.2	115.1	113.9	114.1	116.6	115.2	113.6	113.2	112.4	133.1
16.0	116.2	114.7	113.7	114.4	115.7	116.1	113.9	112.5	111.3	133.0
20.0	115.1	113.8	112.8	113.4	114.3	115.2	113.1	111.6	109.9	132.0
25.0	114.5	113.6	112.7	113.1	114.1	113.8	112.2	111.1	109.5	131.4
31.5	114.1	113.2	112.3	112.3	113.2	112.7	111.3	110.1	108.3	130.7
40.0	113.7	112.9	112.3	112.4	112.6	112.1	110.5	109.2	107.5	130.3
50.0	113.3	112.6	112.3	112.8	112.5	111.8	110.3	108.8	106.8	130.2
63.0	112.8	112.6	112.4	112.4	112.6	111.7	110.0	108.5	106.6	130.1
80.0	113.0	112.3	112.2	112.6	112.7	112.0	110.3	108.7	106.9	130.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	128.6	126.8	125.6	125.5	125.5	124.9	124.5	126.0	127.6	

V_∞ =	339	fps
T_a =	50	°F
RH_a =	69	%
P_a =	13.59	psia

OAPWL = 144.3

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3617 3617

OBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	80.8	80.4	82.7	81.6	85.2	79.7	92.0	96.9	103.3
125	82.7	83.4	86.1	86.8	87.5	85.2	91.8	88.0	105.9
160	80.8	83.3	84.7	85.2	86.4	83.9	91.0	88.1	104.2
200	81.7	81.9	83.9	85.7	84.8	86.7	91.3	88.7	104.9
250	85.2	86.5	85.9	87.3	89.1	87.1	88.6	94.7	104.8
315	88.4	89.5	88.4	88.4	88.1	88.6	87.2	97.4	108.7
400	88.6	87.7	87.5	88.2	89.7	89.7	95.5	98.4	101.6
500	85.8	86.1	87.8	89.3	91.0	93.0	95.8	103.0	108.1
630	91.0	90.5	90.2	91.5	92.0	95.1	99.8	105.3	109.1
800	93.8	91.5	91.5	93.8	94.9	96.6	101.9	108.1	112.0
1000	91.8	95.3	96.2	97.2	97.2	98.8	104.0	110.1	112.3
1250	95.3	97.1	96.7	96.8	101.0	102.6	106.3	112.5	112.9
1600	98.0	99.0	99.3	101.8	103.1	103.9	108.7	114.2	113.6
2000	98.9	100.4	102.1	104.5	104.9	105.3	110.8	115.6	114.3
2500	100.5	101.2	101.2	102.6	105.2	106.4	111.7	116.4	113.7
3150	100.6	101.6	103.1	104.2	104.9	107.6	112.2	116.6	114.0
4000	101.8	102.1	102.4	103.8	106.2	108.5	114.3	117.1	113.6
5000	105.9	103.9	103.8	105.4	107.2	109.1	112.4	116.6	113.3
6300	112.1	108.7	105.5	106.3	107.3	109.5	111.9	115.5	112.3
8000	113.3	112.3	109.1	107.4	108.0	110.1	111.6	115.0	110.9
10000	109.2	111.1	111.8	110.3	108.9	109.5	110.8	113.5	109.0
12500	108.3	107.4	109.0	111.8	110.8	110.1	110.1	111.2	107.5
16000	108.2	108.2	106.9	109.6	112.0	111.2	109.6	109.5	105.6
20000	107.0	106.9	106.8	108.1	110.9	111.4	108.7	107.6	103.1
25000	106.3	106.6	106.5	108.1	110.5	111.0	108.4	106.9	102.3
31500	105.8	106.0	106.2	107.3	109.1	109.6	107.9	105.5	101.1
40000	105.4	105.5	106.0	107.1	108.2	108.2	106.6	104.5	100.4
50000	104.9	105.1	105.7	107.5	107.8	107.5	105.7	103.4	99.6
63000	104.5	104.9	105.8	106.8	107.6	107.2	105.0	103.1	99.1
80000	104.5	104.7	105.3	106.8	107.7	107.1	105.1	102.8	99.4
TSPL	119.8	119.3	119.0	120.0	121.0	121.6	122.8	126.3	124.6
SSPL	119.8	119.3	119.0	120.0	121.0	121.6	122.8	126.3	124.2

V_∞ =	340	fps
T_a =	50	°F
RH_a =	70	%
P_a =	13.58	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3617 3617

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	121.6	120.5	119.5	119.9	120.2	120.2	120.9	124.5	124.4
SSPL	121.6	120.5	119.5	119.9	120.2	120.2	120.8	124.5	124.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	122.1	120.7	119.3	119.2	119.1	118.8	119.1	122.5	122.1
SSPL	122.1	120.7	119.3	119.2	119.1	118.8	119.1	122.5	121.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3617 3617

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	83.2	81.7	82.7	81.0	83.2	76.8	84.7	90.7	94.3
125	85.1	84.9	86.5	86.0	85.5	82.4	86.7	85.6	86.5
160	83.2	84.5	83.1	84.6	84.4	81.0	85.7	85.4	86.4
200	84.1	83.3	84.4	84.7	82.9	83.6	86.8	85.5	87.0
250	87.6	87.6	86.1	86.6	87.2	84.5	84.2	86.5	92.6
315	90.7	90.6	88.3	87.3	86.2	85.9	83.3	86.4	95.7
400	91.0	88.8	87.6	87.5	87.8	86.7	90.2	93.0	95.4
500	88.2	87.4	88.2	88.7	89.1	90.0	91.1	94.7	100.4
630	93.3	91.6	90.4	90.6	90.1	91.9	94.7	98.2	102.4
800	96.2	92.4	91.9	93.1	93.0	93.5	96.6	100.6	105.3
1000	94.1	96.7	96.4	96.2	95.3	95.7	98.7	102.8	107.1
1250	97.7	98.3	96.8	97.5	99.2	99.6	101.4	105.2	109.3
1600	100.4	100.2	99.8	101.2	101.2	100.9	103.6	107.5	110.8
2000	101.3	101.8	102.7	103.8	103.0	102.3	105.5	109.4	112.1
2500	102.9	102.4	101.5	102.1	103.4	103.4	106.5	110.4	112.7
3150	103.0	103.0	103.4	103.3	103.0	104.4	107.2	110.6	112.8
4000	104.1	103.3	102.6	103.2	104.3	105.4	107.5	110.9	113.3
5000	108.3	104.9	104.0	104.7	105.3	106.1	107.7	110.7	112.8
6300	114.5	109.3	105.3	105.5	105.4	106.5	107.6	109.9	111.7
8000	115.7	113.1	108.5	106.3	106.2	107.2	107.5	109.5	111.1
10000	111.6	112.5	111.6	108.9	107.0	106.7	106.8	108.4	109.5
12500	110.6	108.6	109.6	110.9	108.8	107.4	106.5	106.9	107.2
16000	110.6	109.2	107.2	109.2	110.1	108.6	106.5	105.8	105.4
20000	109.4	108.0	107.0	107.6	109.0	108.8	106.0	104.4	103.4
25000	108.6	107.7	106.7	107.5	108.6	108.3	105.7	103.9	102.6
31500	108.2	107.2	106.4	106.6	107.2	106.9	105.0	103.2	101.2
40000	107.8	106.7	106.3	106.3	106.3	105.6	103.7	102.0	100.3
50000	107.3	106.3	106.1	106.7	105.9	104.9	102.8	101.0	99.2
63000	106.9	106.2	106.0	106.0	105.6	104.6	102.2	100.5	98.9
80000	106.8	105.9	105.6	106.0	105.8	104.5	102.3	100.3	98.7
TSPL	122.1	120.4	119.1	119.2	119.1	118.8	118.7	120.6	122.6
SSPL	122.1	120.4	119.1	119.2	119.1	118.8	118.7	120.6	122.6

V_∞ =	340	fps
T_a =	50	°F
RH_a =	70	%
P_a =	13,58	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3617 CONDITION 3617

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB		105.3	0.0	N	468.2	0.0
TEMP	(R)		1266.0	0.0	(K)	700.0	0.0	THRUST,MEA	LB		0.0		N	0.0	
RHO	LB/FT3		0.040	0.0	KG/M3	0.647	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1883.0	0.0	M/S	573.9	0.0	W (MODEL)	LB/S		1.8	0.0	KG/S	0.8	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	83.2	81.7	82.7	81.0	83.2	76.8	84.7	90.7	94.3	103.9
.125	85.1	84.9	86.5	86.0	85.5	82.4	86.7	85.6	86.5	103.9
.160	83.2	84.5	83.1	84.6	84.4	81.0	85.7	85.4	86.4	102.6
.200	84.1	83.3	84.4	84.7	82.9	83.6	86.8	85.5	87.0	102.9
.250	87.6	87.6	86.1	86.6	87.2	84.5	84.2	86.5	92.6	105.2
.315	90.7	90.6	86.3	87.3	86.2	85.9	83.3	86.4	95.7	106.9
.400	91.0	88.8	87.6	87.5	87.8	86.7	90.2	93.0	95.4	108.0
.500	88.2	87.4	88.2	88.7	89.1	90.0	91.1	94.7	100.4	109.8
.630	93.3	91.6	90.4	90.6	90.1	91.9	94.7	98.2	102.4	112.5
.800	96.2	92.4	91.9	93.1	93.0	93.5	96.6	100.6	105.3	114.8
1.00	94.1	96.7	96.4	96.2	95.3	95.7	98.7	102.8	107.1	117.1
1.25	97.7	98.3	96.8	97.5	99.2	99.6	101.4	105.2	109.3	119.4
1.60	100.4	100.2	99.8	101.2	101.2	100.9	103.6	107.5	110.8	121.6
2.00	101.3	101.8	102.7	103.8	103.0	102.3	105.5	109.4	112.1	123.4
2.50	102.9	102.4	101.5	102.1	103.4	103.4	106.5	110.4	112.7	123.9
3.15	103.0	103.0	103.4	103.3	103.0	104.4	107.2	110.6	112.8	124.4
4.00	104.1	103.3	102.6	103.2	104.3	105.4	107.5	110.9	113.3	124.8
5.00	108.3	104.9	104.0	104.7	105.3	106.1	107.7	110.7	112.8	125.4
6.30	114.5	109.3	105.3	105.5	105.4	106.5	107.6	109.9	111.7	126.9
8.00	115.7	113.1	108.5	106.3	106.2	107.2	107.5	109.5	111.1	126.4
10.0	111.6	112.5	111.6	108.9	107.0	106.7	106.8	108.4	109.5	128.1
12.5	110.6	108.6	109.6	110.9	108.8	107.4	106.5	106.9	107.2	127.2
16.0	110.6	109.2	107.2	109.2	110.1	108.6	106.5	105.8	105.4	126.9
20.0	109.4	108.0	107.0	107.6	109.0	108.8	106.0	104.4	103.4	126.0
25.0	108.6	107.7	106.7	107.5	108.6	108.3	105.7	103.9	102.6	125.6
31.5	108.2	107.2	106.4	106.6	107.2	106.9	105.0	103.2	101.2	124.7
40.0	107.8	106.7	106.3	106.3	106.3	105.6	103.7	102.0	100.3	124.1
50.0	107.3	106.3	106.1	106.7	105.9	104.9	102.8	101.0	99.2	123.7
63.0	106.9	106.2	106.0	106.0	105.6	104.6	102.2	100.5	98.9	123.4
80.0	106.8	105.9	105.6	106.0	105.8	104.5	102.3	100.3	98.7	123.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	122.2	120.4	119.1	119.2	119.1	118.8	118.7	120.6	122.6	

OAPWL = 138.2

V_{oo} =	340	fps
T_a =	50	°F
RH_a =	70	%
P_a =	13.58	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CURR
W631 315 05/20/76 -00 000000 XARF 0 3618 3618

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	85.3	85.7	82.0	76.8	85.9	91.2	93.4	96.7	103.2
125	84.9	84.4	83.7	83.0	85.4	78.3	92.6	95.0	105.1
160	82.4	83.3	80.3	79.9	84.2	76.0	91.6	94.4	103.9
200	82.3	81.6	80.4	80.5	82.7	77.4	90.1	92.7	104.7
250	82.5	83.4	81.3	81.2	84.4	80.9	79.9	86.6	104.6
315	82.5	84.8	82.7	82.5	83.7	82.4	80.9	91.0	108.0
400	83.0	83.6	83.1	83.2	84.7	84.2	89.9	92.3	108.5
500	81.9	82.2	83.1	83.9	85.8	87.0	90.7	96.8	100.0
630	85.0	85.0	85.4	86.1	87.3	89.7	94.5	99.3	102.0
800	88.4	86.2	86.7	88.6	89.6	91.2	96.5	101.6	104.7
1000	86.7	89.5	90.4	91.5	91.8	93.3	98.3	103.6	104.9
1250	89.4	91.1	90.6	92.1	95.0	96.7	100.1	105.5	105.5
1600	92.0	92.5	93.0	95.4	97.0	97.8	101.9	106.7	106.4
2000	92.7	93.9	95.7	97.7	98.3	98.9	103.3	107.6	106.8
2500	93.6	94.0	94.1	96.1	98.3	99.4	103.3	107.4	105.9
3150	92.7	93.8	95.1	96.7	98.0	100.3	103.3	106.5	105.2
4000	92.4	93.0	93.7	95.8	96.9	100.8	103.1	105.7	103.7
5000	91.8	92.8	93.8	96.6	99.2	101.0	103.1	103.9	102.0
6300	91.1	92.1	93.5	96.5	99.0	101.2	102.4	102.1	99.9
8000	91.1	91.7	93.1	96.2	99.2	101.6	102.1	101.5	98.0
10000	90.3	91.3	93.0	95.3	98.5	100.4	101.0	100.1	95.8
12500	89.4	90.5	91.9	94.7	97.7	99.7	99.7	98.1	94.1
16000	89.2	90.2	91.2	94.3	97.4	98.9	98.5	96.3	92.2
20000	88.2	89.1	90.2	93.2	96.1	97.5	96.7	94.4	89.6
25000	87.5	88.7	90.0	92.7	95.8	96.3	94.2	93.2	88.2
31500	87.0	88.1	89.4	91.7	94.6	95.1	94.1	91.6	86.7
40000	87.0	87.9	89.4	91.7	93.8	94.2	92.9	90.7	86.0
50000	86.6	87.5	89.1	91.7	93.5	93.5	92.2	89.7	85.3
63000	85.9	87.5	88.8	90.8	93.1	92.8	91.6	89.3	84.5
80000	84.7	86.9	88.4	90.4	92.6	92.4	91.1	89.2	84.2
TSPL	103.7	104.6	105.5	107.8	110.1	111.7	113.7	116.3	117.9
SSPL	103.4	104.3	105.4	107.7	110.1	111.6	113.5	116.2	115.5

V_∞ =	340	fps
T_a =	50	°F
RH_a =	71	%
P_a =	13.58	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3618 3618

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	105.6	105.8	106.1	107.7	109.3	110.2	111.7	114.5	117.7
SSPL	105.3	105.5	106.0	107.6	109.2	110.2	111.6	114.4	115.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	106.1	105.9	105.8	107.0	108.3	108.8	109.9	112.6	115.5
SSPL	105.8	105.7	105.7	106.9	108.2	108.8	109.8	112.4	113.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS (PR
W631 315 05/20/76 -00 000000 XARF 0 3618 3618

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	87.6	86.6	80.6	76.4	84.3	88.0	89.2	90.5	94.1
125	87.2	85.5	83.5	82.3	83.4	75.5	84.9	90.2	92.8
160	84.8	84.2	79.9	79.5	82.2	73.2	83.5	89.5	92.1
200	84.7	82.5	80.3	79.9	80.7	74.5	82.9	87.5	90.7
250	84.9	84.4	81.0	80.6	82.5	78.5	76.1	77.5	85.6
315	84.8	85.9	82.5	81.7	81.8	79.9	77.0	79.6	90.0
400	85.4	84.8	83.1	82.3	82.8	81.2	84.6	86.2	90.8
500	84.3	83.5	83.3	83.2	83.9	84.0	85.8	89.4	93.9
630	87.4	86.2	85.5	85.2	85.4	86.5	89.4	92.7	96.3
800	90.8	87.3	87.1	87.8	87.8	88.1	91.3	94.9	98.7
1000	89.1	90.9	90.7	90.6	89.9	90.2	93.1	96.9	100.4
1250	91.8	92.3	90.8	91.6	93.2	93.7	95.3	98.7	102.2
1600	94.3	93.7	93.5	94.8	95.1	94.6	97.0	100.3	103.3
2000	95.1	95.4	96.2	96.9	96.4	95.9	98.3	101.6	104.1
2500	95.9	95.1	94.4	95.5	96.5	96.4	98.5	101.5	103.9
3150	95.0	95.1	95.5	96.0	96.2	97.3	98.9	101.0	102.9
4000	94.7	94.3	94.1	95.4	97.0	97.8	98.8	100.5	101.9
5000	94.1	94.1	94.4	96.2	97.3	98.0	99.0	99.6	100.1
6300	93.5	93.5	94.1	96.1	97.2	98.3	98.6	98.6	96.2
8000	93.5	93.0	93.7	95.9	97.4	98.7	98.6	98.3	97.5
10000	92.7	92.7	93.5	94.9	96.7	97.5	97.4	97.1	95.9
12500	91.8	91.8	92.5	94.4	95.9	96.8	96.4	95.4	94.9
16000	91.6	91.5	91.9	93.9	95.6	96.1	95.3	93.9	92.1
20000	90.6	90.4	90.8	92.8	94.2	94.7	93.6	92.1	90.1
25000	89.9	90.1	90.6	92.4	93.9	93.6	92.1	90.8	88.9
31500	89.4	89.5	89.9	91.3	92.7	92.4	91.0	89.4	87.3
40000	89.4	89.3	90.0	91.1	92.0	91.6	89.9	88.3	86.4
50000	89.0	88.9	89.7	91.2	91.6	90.9	89.2	87.5	85.4
63000	88.3	88.9	89.3	90.3	91.2	90.2	88.5	87.0	85.0
80000	87.1	88.4	88.8	89.8	90.7	89.8	88.1	86.7	84.8
TSPL	106.1	105.9	106.0	107.3	108.3	108.8	109.5	111.0	112.8
SSPL	105.8	105.7	105.9	107.2	108.2	108.7	109.4	110.9	112.6

V_∞ =	340	fps
T_a =	50	°F
RH_a =	71	%
P_a =	13.58	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3618 CONDITION 3618

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.82	0.0		1.82	0.0	THRUST,IDL	LB	72.6	0.0	N	322.9	0.0
TEMP	(R)	1265.0	0.0	(K)	702.8	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.037	0.0	KG/M3	0.592	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1548.0	0.0	M/S	471.8	0.0	W (MODEL)	LB/S	1.5	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.6	86.6	86.6	76.4	84.3	80.1	84.2	90.5	94.1	105.6
.125	87.2	85.5	83.5	82.3	83.4	75.5	84.9	90.2	92.8	104.1
.160	84.8	84.2	79.9	79.5	82.2	73.2	83.5	89.5	92.1	102.8
.200	84.7	82.5	80.3	79.9	80.7	74.5	82.9	87.5	90.7	101.6
.250	84.9	84.4	81.0	80.6	82.5	78.5	76.1	77.3	85.6	100.1
.315	84.8	85.9	82.5	81.7	81.8	79.9	77.0	79.6	90.0	101.5
.400	85.4	84.8	83.1	82.3	82.8	81.2	84.6	86.2	90.8	102.8
.500	84.3	83.5	83.3	83.2	83.9	84.0	85.8	89.4	93.9	104.3
.630	87.4	86.2	85.5	85.2	85.4	86.5	89.4	92.7	96.3	106.9
.800	90.8	87.3	87.1	87.8	87.8	88.1	91.3	94.9	98.7	109.1
1.00	89.1	90.9	90.7	90.6	89.9	90.2	93.1	96.9	100.4	111.2
1.25	91.8	92.3	90.8	91.6	93.2	93.7	95.3	98.7	102.2	113.1
1.60	94.3	93.7	93.5	94.8	95.1	94.8	97.0	100.3	103.3	114.8
2.00	95.1	95.4	96.2	96.9	96.4	95.9	98.3	101.6	104.1	116.2
2.50	95.9	95.1	94.4	95.5	96.5	96.4	98.5	101.5	103.9	116.0
3.15	95.0	95.1	95.5	96.0	96.2	97.3	98.9	101.0	102.9	115.9
4.00	94.7	94.3	94.1	95.4	97.0	97.8	98.8	100.5	101.9	115.6
5.00	94.1	94.1	94.4	96.2	97.3	98.0	99.0	99.8	100.1	115.5
6.30	93.5	93.5	94.1	96.1	97.2	98.3	98.6	98.6	98.2	115.0
8.00	93.5	93.0	93.7	95.9	97.4	98.7	98.6	98.3	97.5	115.0
10.0	92.7	92.7	93.5	94.9	96.7	97.5	97.4	97.1	95.9	114.0
12.5	91.8	91.8	92.5	94.4	95.9	96.8	96.4	95.4	93.9	113.1
16.0	91.6	91.5	91.9	93.9	95.6	96.1	95.3	93.9	92.1	112.3
20.0	90.6	90.4	90.8	92.8	94.2	94.7	93.6	92.1	90.1	111.0
25.0	89.9	90.1	90.6	92.4	93.9	93.6	92.1	90.8	88.9	110.2
31.5	89.4	89.5	89.9	91.3	92.7	92.4	91.0	89.4	87.3	109.2
40.0	89.4	89.3	90.0	91.1	92.0	91.6	89.9	88.3	86.4	108.7
50.0	89.0	88.9	89.7	91.2	91.6	90.9	89.2	87.5	85.4	108.3
63.0	88.3	88.9	89.3	90.3	91.2	90.2	88.5	87.0	85.0	107.7
80.0	87.1	88.4	88.8	89.8	90.7	89.8	88.1	86.7	84.8	107.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	106.1	105.9	106.0	107.3	108.3	108.8	109.5	111.0	112.8	

OAPWL = 126.7

V_∞ =	340	fps
T_a =	50	°F
RH_a =	71	%
P_a =	13.58	psia

A1.7N

DECK LD DATE ENG MOD ENG NO STND C OBS C RR
W631 315 05/20/76 -00 000000 XARF 0 3619 3614

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.6	79.7	89.7	92.3	77.2	90.6	93.2	96.8	102.8
125	80.3	80.1	74.6	88.8	83.5	89.4	92.3	85.4	105.5
160	77.6	77.5	84.1	86.2	78.1	88.9	91.6	78.2	103.0
200	73.4	69.1	83.5	85.1	72.3	86.6	89.4	92.3	104.3
250	78.0	76.5	65.0	70.2	77.1	85.2	87.9	91.4	104.1
315	76.4	78.3	68.4	72.6	76.2	84.2	86.5	90.4	107.4
400	76.1	76.0	71.7	72.9	77.8	71.5	86.6	80.9	107.6
500	75.3	74.5	71.0	73.8	78.3	76.7	74.3	86.0	96.8
630	76.6	75.9	75.0	76.2	79.8	80.2	83.4	88.0	92.4
800	79.1	76.7	76.1	76.5	80.7	81.7	85.0	89.6	89.3
1000	77.6	78.8	79.1	80.9	81.8	82.9	85.6	90.1	89.9
1250	78.2	79.4	78.7	80.9	83.4	84.7	86.1	90.5	89.4
1600	79.6	79.9	80.1	82.4	84.5	85.1	86.8	90.0	88.9
2000	79.5	80.8	81.7	83.8	85.1	85.9	87.4	89.6	88.0
2500	80.2	80.4	80.4	82.8	84.9	85.9	87.5	88.9	85.7
3150	79.5	80.3	81.3	83.2	84.8	86.1	87.4	87.6	84.0
4000	79.7	79.8	80.2	83.0	85.3	86.4	86.8	87.3	82.4
5000	79.2	79.9	80.6	83.3	85.3	86.3	86.5	85.9	81.3
6300	78.4	79.0	80.1	82.7	84.6	85.9	85.4	84.2	79.4
8000	78.2	78.2	79.3	82.1	84.3	85.6	84.5	83.5	78.0
10000	76.7	77.7	78.2	80.9	83.3	83.8	82.7	81.7	74.3
12500	75.7	76.6	77.7	80.1	82.1	82.7	80.6	79.4	69.8
16000	75.4	76.7	76.9	79.5	81.6	81.7	79.6	77.5	77.7
20000	74.3	75.4	75.8	78.0	80.0	80.3	77.4	75.7	75.5
25000	73.1	74.8	75.6	77.5	80.7	79.3	75.9	75.1	74.9
31500	71.9	74.0	76.2	76.2	79.8	78.9	75.3	75.3	73.9
40000	71.3	75.6	76.1	75.6	79.6	78.5	74.7	75.0	74.5
50000	76.7	72.0	76.3	73.9	80.1	78.1	73.4	75.5	76.4
63000	78.7	65.8	71.7	78.4	79.9	76.1	77.6	74.4	79.6
80000	81.8	79.3	78.8	79.9	79.6	73.4	79.3	75.9	83.3
TSPL	92.6	92.7	94.9	97.7	96.9	99.5	101.3	102.7	114.1
SSPL	91.6	91.6	92.1	94.2	96.4	96.9	97.6	99.7	100.9

V_∞ =	338	fps
T_a =	51	°F
RH_a =	71	%
P_a =	13.59	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/20/76 -00 000000 XARF 0 3619 3619

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	94.5	93.9	95.4	97.6	96.0	98.0	99.3	100.9	113.8
SSPL	93.4	92.8	92.6	94.1	95.5	95.5	95.6	97.9	100.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	95.0	94.0	95.2	96.9	95.0	96.6	97.5	99.0	111.6
SSPL	94.0	92.9	92.3	93.4	94.5	94.1	93.9	95.9	98.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3619 3619

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	80.0	82.1	91.3	89.3	75.2	86.7	89.1	90.5	94.1
125	82.7	80.6	76.7	88.3	81.6	86.1	88.6	84.4	84.0
160	80.0	79.4	85.2	84.2	76.3	85.2	88.6	80.7	77.0
200	75.8	71.4	85.3	82.3	70.4	82.6	85.3	86.0	90.3
250	80.4	76.3	84.8	70.6	75.5	81.8	83.6	84.7	89.6
315	78.8	78.5	68.1	72.7	76.5	80.9	82.3	83.1	89.1
400	78.5	76.7	71.5	72.7	75.8	68.5	79.2	79.7	80.4
500	77.7	75.2	71.2	73.7	76.5	74.3	70.5	74.1	84.4
630	79.0	76.9	75.1	75.6	77.9	77.3	78.7	81.3	85.2
800	81.4	77.6	76.4	77.9	78.8	78.7	80.3	83.2	86.1
1000	80.0	80.1	79.4	80.1	79.9	80.0	81.1	83.8	86.7
1250	80.6	80.5	79.0	80.4	81.6	81.8	82.0	84.2	87.0
1600	82.0	81.1	80.5	81.9	82.6	82.2	82.6	84.4	86.5
2000	81.8	82.2	82.2	83.1	83.2	83.0	83.3	84.6	85.9
2500	82.6	81.5	80.8	82.2	83.0	83.1	83.5	84.5	85.0
3150	81.9	81.6	81.7	82.5	83.0	83.2	83.5	84.0	83.6
4000	82.1	81.0	80.7	82.5	83.5	83.6	83.2	83.4	83.1
5000	81.6	81.1	81.1	82.8	83.4	83.5	83.0	82.7	81.7
6300	80.8	80.3	80.6	82.1	82.7	83.1	82.1	81.3	79.9
8000	80.6	79.5	79.9	81.6	82.4	82.8	81.4	80.5	79.2
10000	79.1	78.9	78.7	80.4	81.4	81.1	79.6	78.9	77.1
12500	78.1	77.9	78.2	79.6	80.2	80.1	77.6	76.7	74.5
16000	77.8	77.9	77.4	79.0	79.7	79.1	76.8	74.6	73.8
20000	76.7	76.6	76.2	77.4	78.1	77.7	74.8	72.5	72.0
25000	75.5	76.1	75.9	77.1	78.8	76.9	73.3	71.4	71.5
31500	74.3	75.5	76.3	75.6	77.9	76.4	72.7	71.2	71.5
40000	73.7	77.1	76.0	75.0	77.8	76.1	72.2	70.6	71.4
50000	79.1	73.3	76.2	73.5	78.3	75.8	70.9	69.8	72.1
63000	81.0	66.6	73.4	78.2	77.9	73.6	73.8	72.1	71.3
80000	84.2	80.2	79.0	79.0	77.5	70.9	74.3	74.0	73.1
TSPL	95.0	93.9	95.9	96.4	95.0	96.3	97.4	97.3	100.0
SSPL	94.0	92.8	92.5	93.7	94.5	94.2	93.8	94.6	96.1

V_∞ =	338	fps
T_a =	51	°F
RH_a =	71	%
P_a =	13.59	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=338 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3619 CONDITION 3619

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
---	P.R.		1.30	0.0		1.30	0.0	THRUST,IDL	LB	30.8	0.0	N	137.0	0.0
	TEMP	(R)	1265.0	0.0	(K)	702.8	0.0	THRUST,MEA	LB	0.0		N	0.0	
	RHO	LB/FT3	0.034	0.0	KG/M3	0.543	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
	VEL	FPS	1055.0	0.0	M/S	321.6	0.0	W (MODEL)	LB/S	0.9	0.0	KG/S	0.4	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	80.0	82.1	91.3	89.3	75.2	86.7	89.1	90.5	94.1	106.8
.125	82.7	80.6	76.7	88.3	81.6	86.1	88.6	84.4	84.0	105.3
.160	80.0	79.4	85.2	84.2	76.3	85.2	88.6	80.7	77.0	102.2
.200	75.8	71.4	85.3	82.3	70.4	82.6	85.3	86.0	90.3	101.7
.250	80.4	76.3	84.8	70.6	75.5	81.8	83.6	84.7	89.6	99.4
.315	78.8	78.5	68.1	72.7	76.5	80.9	82.3	83.1	89.1	98.7
.400	78.5	76.7	71.5	72.7	75.8	68.5	79.2	79.7	80.4	94.8
.500	77.7	75.2	71.2	73.7	76.5	74.3	70.5	74.1	84.4	94.1
.630	79.0	76.9	75.1	75.8	77.9	77.3	78.7	81.3	85.2	96.8
.800	81.4	77.6	76.4	77.9	78.8	78.7	80.3	83.2	86.1	98.3
1.00	80.0	80.1	79.4	80.1	79.9	80.0	81.1	83.8	86.7	99.4
1.25	80.6	80.5	79.0	80.4	81.6	81.8	82.0	84.2	87.0	100.1
1.60	82.0	81.1	80.5	81.9	82.6	82.2	82.6	84.4	86.5	100.8
2.00	81.8	82.2	82.2	83.1	83.2	83.0	83.3	84.6	85.9	101.4
2.50	82.6	81.5	80.8	82.2	83.0	83.1	83.5	84.5	85.0	101.1
3.15	81.9	81.6	81.7	82.5	83.0	83.2	83.5	84.0	83.8	101.0
4.00	82.1	81.0	80.7	82.5	83.5	83.6	83.2	83.4	83.1	100.9
5.00	81.6	81.1	81.1	82.8	83.4	83.5	83.0	82.7	81.7	100.8
6.30	80.8	80.3	80.6	82.1	82.7	83.1	82.1	81.3	79.9	100.6
8.00	80.6	79.5	79.9	81.6	82.4	82.6	81.4	80.5	79.2	99.5
10.0	79.1	78.9	78.7	80.4	81.4	81.1	79.6	78.9	77.1	98.2
12.5	78.1	77.9	78.2	79.6	80.2	80.1	77.8	76.7	74.5	97.0
16.0	77.8	77.9	77.4	79.0	79.7	79.1	76.8	74.6	73.8	96.4
20.0	76.7	76.6	76.2	77.4	78.1	77.7	74.8	72.5	72.0	94.9
25.0	75.5	76.1	75.9	77.1	78.8	76.9	73.3	71.4	71.5	94.5
31.5	74.3	75.5	76.3	75.6	77.9	76.4	72.7	71.2	71.5	93.8
40.0	73.7	77.1	76.0	75.0	77.8	76.1	72.2	70.6	71.4	93.8
50.0	79.1	73.3	76.2	73.5	78.3	75.8	70.9	69.8	72.1	93.7
63.0	81.0	66.6	73.4	78.2	77.9	73.6	73.8	72.1	71.3	94.1
80.0	84.2	80.2	79.0	79.0	77.5	70.9	74.3	74.0	73.1	96.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.0	93.9	95.9	96.4	95.0	96.3	97.4	97.3	100.0	

OAPWL = 114.5

V_∞ =	338	fps
T_a =	51	°F
RH_a =	71	%
P_a =	13.59	psia

DECK LD DATE ENG MOD ENG NU STND C OBS CORR'
W631 315 05/20/76 -00 000000 XAKF 0 3620 3620

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	84.4	82.3	87.4	89.6	88.0	86.0	87.8	91.4	95.7
125	83.4	84.8	88.3	88.6	86.9	86.2	68.4	92.1	97.7
160	82.4	85.4	86.3	87.9	87.5	87.1	87.9	92.9	99.4
200	83.0	84.7	87.2	89.9	88.0	91.2	93.6	93.8	99.6
250	87.4	89.3	90.2	91.7	93.7	92.3	94.9	99.5	101.2
315	93.7	95.7	94.3	94.5	93.6	94.7	95.6	101.6	109.2
400	96.0	94.6	93.5	93.6	94.6	94.4	100.2	102.4	111.8
500	93.2	92.8	93.1	93.6	96.3	99.0	101.1	108.0	112.6
630	95.8	95.2	95.1	96.6	97.3	99.8	103.7	109.6	115.2
800	99.8	97.0	97.1	99.2	99.6	100.5	106.2	113.2	118.3
1000	97.2	100.9	101.0	101.6	100.9	102.4	107.6	115.3	119.1
1250	100.1	101.3	100.2	102.6	105.3	106.0	110.0	117.5	120.0
1600	101.2	101.7	102.6	104.5	106.5	107.3	112.3	119.4	120.4
2000	102.5	104.5	106.7	108.8	108.1	108.9	114.7	121.1	121.1
2500	105.5	105.0	105.3	107.9	108.7	109.5	115.2	122.1	120.7
3150	108.3	107.5	107.4	109.1	109.5	111.1	115.8	122.1	120.6
4000	116.2	112.2	109.8	110.3	110.4	112.1	115.5	122.6	119.8
5000	119.9	118.1	112.6	111.3	111.4	112.2	115.7	121.7	118.4
6300	115.9	117.9	117.8	115.0	112.4	112.9	115.3	120.7	116.3
8000	114.6	114.0	116.2	118.2	115.4	114.6	115.5	119.8	114.6
10000	114.9	114.0	112.2	116.2	117.5	115.7	115.3	118.4	112.6
12500	113.7	113.5	113.1	113.2	117.3	117.4	115.3	116.6	111.8
16000	113.1	113.2	112.3	113.8	115.4	118.3	115.1	115.2	110.5
20000	112.1	111.8	111.5	112.4	114.0	116.8	114.2	113.6	108.2
25000	111.3	111.5	111.2	112.2	113.9	114.8	113.3	113.0	107.5
31500	110.5	110.8	110.6	111.5	113.1	113.5	112.2	111.8	106.4
40000	110.1	110.5	110.7	111.6	112.5	113.1	111.4	110.9	105.6
50000	109.9	110.2	110.6	112.1	112.6	112.8	111.3	110.4	105.0
63000	109.7	110.6	111.1	112.1	113.1	113.2	111.4	110.9	105.2
80000	110.2	110.6	111.2	112.8	113.5	113.8	112.2	111.1	105.9
TSPL	125.8	125.3	124.6	125.5	126.1	126.7	127.1	131.7	130.5
SSPL	125.8	125.3	124.6	125.5	126.1	126.7	127.0	131.7	130.4

V_∞ =	203	fps
T_a =	66	°F
RH_a =	0	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W691 315 05/20/76 -00 000000 XARF 0 3620 3620

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	126.7	125.9	124.8	125.3	125.5	125.8	125.8	130.2	129.8
SSPL	126.7	125.8	124.8	125.3	125.5	125.8	125.7	130.2	129.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	127.1	126.0	124.7	124.9	124.9	124.9	124.7	129.1	128.3
SSPL	127.1	126.0	124.7	124.9	124.9	124.9	124.7	129.1	128.2

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XAREF 0 3620 3620

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	85.7	83.1	87.9	89.0	86.7	84.2	84.9	87.1	90.6
125	84.7	85.7	88.6	87.9	85.6	84.4	85.4	87.6	91.7
160	83.7	86.2	86.5	87.3	86.3	85.4	85.2	87.8	93.0
200	84.3	85.6	87.6	89.3	86.9	89.2	91.0	90.8	93.2
250	88.7	90.1	90.3	91.2	92.5	90.5	91.8	95.0	98.0
315	95.0	96.3	94.2	93.8	92.4	92.9	91.0	95.0	102.3
400	97.3	95.1	93.4	93.1	93.0	92.4	96.7	98.4	103.1
500	94.5	93.4	93.1	93.2	95.2	97.0	98.0	102.3	107.6
630	97.1	95.8	95.2	96.1	96.2	97.8	100.4	104.3	109.5
800	101.1	97.5	97.3	98.7	98.4	98.5	102.4	107.6	113.0
1000	98.5	101.7	101.1	101.0	99.7	100.4	103.9	109.5	114.8
1250	101.4	102.0	100.3	102.3	104.2	104.1	106.5	111.9	116.5
1600	102.5	102.4	102.8	104.1	105.4	105.3	108.6	114.1	117.9
2000	103.8	105.4	107.1	106.3	106.9	106.9	111.0	116.3	119.3
2500	106.9	105.7	105.6	107.5	107.6	107.5	111.4	117.2	119.9
3150	109.6	108.1	107.5	108.5	108.3	109.0	112.2	117.3	119.7
4000	117.5	112.5	109.6	109.7	109.2	110.1	112.1	117.6	119.9
5000	121.2	116.3	112.1	110.6	110.2	110.3	112.4	117.2	118.7
6300	117.2	118.7	117.6	114.1	111.2	111.0	112.2	116.5	117.4
8000	116.0	114.8	116.6	117.6	114.1	112.4	112.8	116.1	116.1
10000	116.2	114.5	112.4	115.8	116.3	114.0	112.9	115.1	114.4
12500	115.0	114.1	113.0	112.8	116.2	115.7	113.3	113.8	112.7
16000	114.4	113.8	112.4	113.3	114.3	116.5	113.5	112.9	111.3
20000	113.4	112.4	111.5	111.9	112.9	115.0	112.5	111.7	109.4
25000	112.6	112.1	111.2	111.7	112.7	113.0	111.4	111.0	108.7
31500	111.8	111.4	110.6	111.0	111.9	111.8	110.2	109.9	107.6
40000	111.4	111.2	110.8	111.1	111.4	111.4	109.6	109.0	106.7
50000	111.2	110.9	110.8	111.6	111.4	111.1	109.4	108.7	106.2
63000	111.0	111.3	111.2	111.5	111.9	111.5	109.5	109.0	106.5
80000	111.5	111.3	111.4	112.3	112.3	112.1	110.4	109.4	106.9
TSPL	127.1	125.9	124.7	124.9	124.9	124.9	124.4	127.4	129.1
SSPL	127.1	125.9	124.7	124.9	124.9	124.9	124.4	127.4	129.1

V_∞ =	203	fps
T_a =	66	°F
RH_a =	0	%
P_a =	14.19	psia

20036F OBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=203 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3620 CONDITION 3620

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			3.23	0.0		3.23	0.0	THRUST,IDL	LB		164.8	0.0	N	733.2	0.0
TEMP	(R)	1067.0		0.0	(K)	592.8	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3	0.051		0.0	KG/M3	0.822	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS	1916.0		0.0	M/S	584.0	0.0	W (MODEL)	LB/S		2.8	0.0	KG/S	1.3	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	85.7	83.1	87.9	89.0	86.7	84.2	84.9	87.1	90.6	105.1
.125	84.7	85.7	88.6	87.9	85.6	84.4	85.4	87.6	91.7	105.3
.160	83.7	86.2	86.5	87.3	86.3	85.4	85.2	87.8	93.0	105.2
.200	84.3	85.6	87.6	89.3	86.9	89.2	91.0	90.8	93.2	107.2
.250	88.7	90.1	90.3	91.2	92.5	90.5	91.8	95.0	98.0	110.4
.315	95.0	96.3	94.2	93.8	92.4	92.9	91.0	95.0	102.3	113.2
.400	97.3	95.1	93.4	93.1	93.6	92.4	96.7	98.4	103.1	114.2
.500	94.5	93.4	93.1	93.2	95.2	97.0	98.0	102.3	107.6	116.5
.630	97.1	95.8	95.2	96.1	96.2	97.8	100.4	104.3	109.5	118.5
.800	101.1	97.5	97.3	98.7	98.4	98.5	102.4	107.6	113.0	121.4
1.00	98.5	101.7	101.1	101.0	99.7	100.4	103.9	109.5	114.8	123.3
1.25	101.4	102.0	100.3	102.3	104.2	104.1	106.5	111.9	116.5	125.3
1.60	102.5	102.4	102.8	104.1	105.4	105.3	108.6	114.1	117.9	127.0
2.00	103.8	105.4	107.1	108.3	106.9	106.9	111.0	116.3	119.3	129.2
2.50	106.9	105.7	105.6	107.5	107.6	107.5	111.4	117.2	119.9	129.7
3.15	109.6	108.1	107.5	108.5	108.3	109.0	112.2	117.3	119.7	130.3
4.00	117.5	112.5	109.6	109.7	109.2	110.1	112.1	117.6	119.9	131.8
5.00	121.2	118.3	112.1	110.6	110.2	110.3	112.4	117.2	118.7	133.8
6.30	117.2	118.7	117.6	114.1	111.2	111.0	112.2	116.5	117.4	134.0
8.00	116.0	114.8	116.6	117.6	114.1	112.9	112.8	116.1	116.1	133.8
10.0	116.2	114.5	112.4	115.8	116.3	114.0	112.9	115.1	114.4	133.1
12.5	115.0	114.1	113.0	112.8	116.2	115.7	113.3	113.8	112.7	132.6
16.0	114.4	113.8	112.4	113.3	114.3	116.5	113.5	112.9	111.3	132.3
20.0	113.4	112.4	111.5	111.9	112.9	115.0	112.5	111.7	109.4	131.0
25.0	112.6	112.1	111.2	111.7	112.7	113.0	111.4	111.0	108.7	130.2
31.5	111.8	111.4	110.6	111.0	111.9	111.8	110.2	109.9	107.6	129.3
40.0	111.4	111.2	110.8	111.1	111.4	111.4	109.6	109.0	106.7	129.1
50.0	111.2	110.9	110.8	111.6	111.4	111.1	109.4	108.7	106.2	129.0
63.0	111.0	111.3	111.2	111.5	111.9	111.5	109.5	109.0	106.5	129.3
80.0	111.5	111.3	111.4	112.3	112.3	112.1	110.4	109.4	106.9	129.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	127.1	125.9	124.7	124.9	124.9	124.9	124.4	127.4	129.1	OAPWL = 144.0

V_∞ =	203	fps
T_a =	66	°F
RH_a =	0	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3621 721

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	82.6	81.5	84.5	86.6	86.1	84.5	86.3	90.4	99.1
125	82.6	84.3	86.9	86.7	85.6	86.1	87.8	92.1	100.6
160	84.4	86.9	87.3	88.8	87.9	87.8	88.2	93.8	102.0
200	84.6	86.6	87.9	90.5	89.1	92.1	94.8	95.3	104.7
250	87.6	89.4	90.6	92.4	94.8	93.9	96.6	101.3	103.8
315	94.3	97.3	95.5	96.5	95.6	96.5	95.6	103.1	110.4
400	98.5	97.4	96.2	96.1	96.2	96.1	101.8	104.2	113.6
500	98.0	97.5	96.3	95.4	96.0	101.5	104.0	110.1	113.5
630	96.6	96.6	96.9	98.6	99.3	101.9	105.7	111.2	117.3
800	102.2	99.6	99.9	101.7	102.0	102.9	106.3	115.2	119.6
1000	100.0	103.2	103.0	104.4	104.2	104.3	109.9	117.5	121.0
1250	101.5	101.8	101.6	104.7	107.2	107.9	112.3	119.8	122.1
1600	101.5	103.4	103.0	105.2	108.2	108.9	114.6	121.5	122.1
2000	104.4	105.8	108.0	109.2	109.6	110.4	116.9	123.1	123.0
2500	105.6	105.7	106.2	109.8	110.3	111.3	117.4	124.1	122.9
3150	107.8	107.9	107.6	108.8	110.6	112.2	117.8	124.0	122.4
4000	115.4	112.0	109.8	111.3	111.6	113.1	117.7	124.6	121.4
5000	119.8	117.4	112.3	111.4	112.4	113.8	117.8	123.4	119.9
6300	116.8	118.5	117.3	114.4	112.9	114.1	117.1	122.2	118.2
8000	115.0	115.1	117.0	118.0	115.3	115.4	117.1	121.2	116.6
10000	115.3	114.2	113.3	117.1	117.4	116.1	116.6	119.7	115.4
12500	114.0	113.9	113.2	113.7	117.9	117.3	116.1	116.0	114.3
16000	113.3	113.3	112.8	113.9	116.0	118.0	115.6	116.7	113.2
20000	112.3	112.1	111.8	112.9	114.4	116.7	114.6	114.9	111.2
25000	111.3	111.7	111.4	112.4	114.2	115.1	113.5	114.2	110.3
31500	110.4	111.0	110.9	111.7	113.2	113.7	112.6	113.1	108.8
40000	110.2	110.6	110.8	111.8	112.7	113.4	111.8	112.4	108.0
50000	109.8	110.3	110.7	112.1	112.7	112.9	111.6	111.8	107.6
63000	109.8	110.5	111.1	112.1	113.0	113.3	111.8	112.2	107.6
80000	110.3	110.8	111.3	112.8	113.7	114.0	112.7	112.7	108.7
TSPL	125.9	125.5	124.9	125.7	126.5	127.1	128.5	133.5	132.4
SSPL	125.9	125.5	124.9	125.7	126.5	127.1	128.5	133.5	132.3

V_∞ =	103	fps
T_a =	77	°F
RH_a =	0	%
P_a =	14.43	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	126.3	125.8	124.9	125.6	126.2	126.6	127.8	132.6	131.6
SSPL	126.3	125.8	124.9	125.6	126.2	126.6	127.8	132.6	131.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	126.6	125.9	124.9	125.5	125.9	126.2	127.3	132.1	130.9
SSPL	126.6	125.9	124.9	125.4	125.9	126.2	127.3	132.1	130.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3621 3621

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	83.3	81.9	84.6	86.3	85.4	83.6	84.7	87.5	94.0
125	83.3	84.7	87.0	86.4	85.0	85.2	86.3	89.2	95.6
160	85.1	87.3	87.4	88.5	87.3	86.9	86.7	90.7	97.3
200	85.3	87.0	88.0	90.2	88.5	91.1	93.4	93.3	97.8
250	88.3	89.8	90.7	92.2	94.2	93.0	95.0	98.9	101.7
315	95.0	97.7	95.5	96.2	95.0	95.6	94.3	99.7	106.3
400	99.2	97.7	96.2	95.8	95.6	95.1	100.0	101.7	108.0
500	98.7	97.8	96.3	95.2	97.5	100.5	102.3	107.3	111.1
630	97.3	96.9	97.0	98.4	96.8	100.9	103.9	108.3	113.6
800	102.9	99.9	100.0	101.5	101.4	101.9	106.3	112.2	116.8
1000	100.7	103.6	103.1	104.2	103.6	103.3	107.9	114.5	118.8
1250	102.2	102.2	101.7	104.6	106.7	106.9	110.4	116.9	120.4
1600	102.2	103.8	103.1	105.1	107.7	107.9	112.6	118.9	121.2
2000	105.1	106.3	108.1	109.0	109.1	109.4	114.9	120.7	122.3
2500	106.3	106.1	106.4	109.7	109.6	110.3	115.4	121.7	122.8
3150	108.4	108.2	107.6	108.5	110.6	111.1	115.8	121.6	122.4
4000	116.0	112.2	109.8	111.0	111.0	112.0	115.8	122.2	122.2
5000	120.4	117.5	112.1	111.1	111.8	112.8	116.0	121.3	120.7
6300	117.5	118.9	117.2	114.0	112.3	113.1	115.4	120.3	119.3
8000	115.7	115.5	117.1	117.7	114.7	114.5	115.6	119.5	118.0
10000	116.0	114.5	113.4	116.9	116.6	115.2	115.2	118.1	116.4
12500	114.6	114.2	113.2	113.5	117.4	116.4	114.9	116.5	114.8
16000	114.0	113.6	112.8	113.7	115.5	117.1	114.6	115.4	113.6
20000	112.9	112.4	111.8	112.7	113.9	115.8	113.6	113.8	111.6
25000	111.9	112.0	111.4	112.2	113.6	114.2	112.4	113.0	110.8
31500	111.0	111.3	110.9	111.5	112.6	112.8	111.5	112.0	109.5
40000	110.9	111.0	110.9	111.6	112.2	112.6	110.8	111.3	108.8
50000	110.5	110.7	110.8	111.9	112.1	112.0	110.7	110.8	108.2
63000	110.4	110.8	111.1	111.8	112.4	112.4	110.7	111.1	108.4
80000	111.0	111.2	111.4	112.6	113.1	113.1	111.7	111.7	109.2
TSPL	126.6	125.8	124.9	125.5	125.9	126.2	127.0	131.3	131.9
SSPL	126.6	125.8	124.9	125.5	125.9	126.2	126.9	131.3	131.8

V_∞ =	103	fps
T_a =	77	°F
RH_a =	0	%
P_a =	14.43	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=103 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3621 CONDITION 3621

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			3.23	0.0		3.23	0.0	THRUST,IDL	LB		166.9	0.0	N	742.3	0.0
TEMP	(K)		1070.0	0.0	(K)	594.4	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.051	0.0	KG/M3	0.820	0.0	AREA (NOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1919.0	0.0	M/S	584.9	0.0	W (MODEL)	LB/S		2.8	0.0	KG/S	1.3	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	83.3	81.9	84.6	86.3	85.4	83.6	84.7	87.5	94.0	104.3
.125	83.3	84.7	87.0	86.4	85.0	85.2	86.3	89.2	95.6	105.6
.160	85.1	87.3	87.4	88.5	87.3	86.9	86.7	90.7	97.3	107.2
.200	85.3	87.0	88.0	90.2	88.5	91.1	93.4	93.3	97.8	109.3
.250	88.3	89.8	90.7	92.2	94.2	93.0	95.0	98.9	101.7	112.8
.315	95.0	97.7	95.5	96.2	95.0	95.6	94.3	99.7	106.3	116.0
.400	99.2	97.7	96.2	95.8	95.6	95.1	100.0	101.7	108.0	117.5
.500	98.7	97.8	96.3	95.2	97.5	100.5	102.3	107.3	111.1	120.5
.630	97.3	96.9	97.0	98.4	98.8	100.9	103.9	108.3	113.6	122.0
.800	102.9	99.9	100.0	101.5	101.4	101.9	106.3	112.2	116.8	125.2
1.00	100.7	103.6	103.1	104.2	103.6	103.3	107.9	114.5	118.8	127.3
1.25	102.2	102.2	101.7	104.6	106.7	106.9	110.4	116.9	120.4	129.2
1.60	102.2	103.8	103.1	105.1	107.7	107.9	112.6	118.9	121.2	130.6
2.00	105.1	106.3	108.1	109.0	109.1	109.4	114.9	120.7	122.3	132.4
2.50	106.3	106.1	106.4	109.7	109.8	110.3	115.4	121.7	122.8	133.1
3.15	108.4	108.2	107.6	108.5	110.0	111.1	115.8	121.6	122.4	133.2
4.00	116.0	112.2	109.8	111.0	111.0	112.0	115.8	122.2	122.2	134.1
5.00	120.4	117.5	112.1	111.1	111.8	112.8	116.0	121.3	120.7	134.9
6.30	117.5	118.9	117.2	114.0	112.3	113.1	115.4	120.3	119.3	135.1
8.00	115.7	115.5	117.1	117.7	114.7	114.5	115.6	119.5	118.0	134.9
10.0	116.0	114.5	113.4	116.9	116.8	115.2	115.2	118.1	116.4	134.2
12.5	114.6	114.2	113.2	113.5	117.4	116.4	114.9	116.5	114.8	133.6
16.0	114.0	113.6	112.8	113.7	115.5	117.1	114.6	115.4	113.6	133.0
20.0	112.9	112.4	111.8	112.7	113.9	115.8	113.6	113.8	111.6	131.7
25.0	111.9	112.0	111.4	112.2	113.6	114.2	112.4	113.0	110.8	130.9
31.5	111.0	111.3	110.9	111.5	112.6	112.8	111.5	112.0	109.5	130.0
40.0	110.9	111.0	110.9	111.6	112.2	112.6	110.8	111.3	108.8	129.7
50.0	110.5	110.7	110.8	111.9	112.1	112.0	110.7	110.8	108.2	129.5
63.0	110.4	110.8	111.1	111.8	112.4	112.4	110.7	111.1	108.4	129.7
80.0	111.0	111.2	111.4	112.6	113.1	113.1	111.7	111.7	109.2	130.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	126.6	125.8	124.9	125.5	125.9	126.2	127.0	131.3	131.9	OAPWL = 145.5

V_∞ =	103	fps
T_a =	77	°F
RH_a =	0	%
P_a =	14.43	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CHR
W631 315 05/20/76 -00 000000 XAKF 0 3623 [illegible]

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	85.3	83.4	88.4	90.5	88.8	86.1	88.0	92.6	96.8
125	84.5	86.2	89.3	89.3	87.7	87.1	89.2	93.3	98.4
160	83.9	86.9	87.6	89.2	88.6	88.3	88.8	94.2	100.4
200	84.3	86.3	88.3	90.9	89.3	92.5	94.7	95.3	100.7
250	88.1	90.1	91.4	92.9	94.7	95.3	96.4	101.1	101.8
315	94.9	96.7	95.2	95.7	94.8	96.0	95.1	103.4	110.2
400	97.1	95.8	95.0	94.9	96.0	95.6	101.8	104.1	113.1
500	94.5	94.1	94.1	94.8	97.1	100.1	102.5	109.7	114.4
630	96.3	96.2	96.6	97.9	98.2	101.3	105.8	111.6	116.8
800	100.7	98.2	98.3	100.4	100.7	102.1	108.2	114.9	119.6
1000	98.1	101.6	102.0	102.8	102.6	104.3	110.0	117.1	120.3
1250	101.0	102.6	101.5	103.8	107.0	108.3	112.4	119.4	121.0
1600	102.4	103.2	104.2	106.1	108.3	109.3	115.1	121.3	121.2
2000	103.8	105.8	107.8	110.2	109.9	111.0	117.6	122.8	121.8
2500	106.6	106.5	106.9	109.4	110.3	111.7	118.5	123.7	121.3
3150	108.6	108.3	108.7	110.4	110.7	113.2	119.2	123.8	121.0
4000	115.2	111.8	110.3	111.1	111.9	114.0	119.3	124.2	120.0
5000	120.2	117.2	112.2	111.8	112.9	114.6	119.8	123.3	116.4
6300	117.1	119.0	117.3	114.4	113.3	115.0	119.3	121.8	116.6
8000	115.1	115.4	117.8	117.9	115.7	116.1	119.3	120.8	114.8
10000	115.4	114.2	113.8	118.1	117.5	116.5	118.7	119.4	113.3
12500	114.1	114.4	113.3	114.5	118.4	117.4	117.7	117.5	112.1
16000	113.7	113.6	113.3	114.4	117.3	118.0	116.9	116.3	110.3
20000	112.5	112.4	111.9	113.4	115.4	117.1	115.6	114.5	108.4
25000	111.4	111.7	111.6	112.6	115.0	115.5	114.5	113.8	107.3
31500	110.3	110.8	110.6	111.7	113.6	114.8	113.4	112.2	105.9
40000	109.5	110.0	110.2	111.1	112.5	112.9	112.1	110.8	104.8
50000	108.4	108.7	109.3	110.8	111.7	111.8	111.3	109.7	103.6
63000	107.5	108.3	108.7	109.9	111.1	111.1	110.5	109.1	102.6
80000	106.7	107.4	107.9	109.3	110.5	110.5	110.0	108.2	102.2
TSPL	126.0	125.5	124.9	125.8	126.7	127.3	129.8	133.1	131.1
SSPL	125.9	125.5	124.9	125.8	126.7	127.2	129.8	133.1	131.0

V_∞ =	202	fps
T_a =	60	°F
RH_a =	3	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3623 3623

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	126.9	126.1	125.1	125.6	126.1	126.3	128.5	131.6	130.4
SSPL	126.9	126.0	125.1	125.6	126.1	126.3	128.5	131.6	130.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	127.3	126.2	125.0	125.2	125.5	125.4	127.5	130.5	128.9
SSPL	127.3	126.2	125.0	125.2	125.5	125.4	127.5	130.5	128.8

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3623 3622

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	86.6	84.2	88.9	89.8	87.5	84.4	85.1	87.9	91.9
125	85.8	87.1	89.5	88.6	86.5	85.3	86.3	88.7	92.8
160	85.2	87.7	87.8	86.6	87.4	86.6	86.1	88.9	94.2
200	85.7	87.2	88.7	90.4	88.1	90.5	92.1	92.1	94.6
250	89.4	90.9	91.6	92.4	93.5	91.5	93.2	96.7	99.3
315	96.2	97.3	95.1	95.1	93.6	94.2	92.4	96.8	103.9
400	98.4	96.3	94.9	94.3	94.8	93.6	98.2	100.1	104.7
500	95.8	94.7	94.1	94.3	96.0	98.1	99.3	103.9	109.4
630	97.6	96.9	96.7	97.4	97.1	99.2	102.4	106.4	111.3
800	102.0	98.7	98.5	99.9	99.5	100.1	104.4	109.5	114.6
1000	99.4	102.5	102.1	102.2	101.4	102.3	106.2	111.7	116.3
1250	102.3	103.3	101.6	103.5	105.9	106.3	108.9	114.1	118.1
1600	103.7	104.6	104.4	105.7	107.2	107.3	111.4	116.6	119.4
2000	105.1	106.7	108.2	109.7	108.7	109.0	113.8	118.6	120.5
2500	108.0	107.2	107.2	109.0	109.2	109.7	114.7	119.7	121.6
3150	109.9	108.9	108.8	109.8	109.5	111.1	115.5	119.9	120.8
4000	116.5	112.2	110.2	110.5	110.7	111.9	115.7	120.3	120.8
5000	121.5	117.4	111.8	111.2	111.7	112.6	116.4	120.1	119.6
6300	118.4	119.7	116.9	113.6	112.1	113.0	116.1	119.0	117.9
8000	116.5	116.2	118.0	117.2	114.5	114.2	116.4	118.4	116.6
10000	116.7	114.8	114.1	117.6	116.3	114.7	116.0	117.3	115.1
12500	115.4	115.0	113.3	114.1	117.2	115.6	115.4	115.5	113.3
16000	115.0	114.2	113.4	114.0	116.2	116.2	114.9	114.5	111.5
20000	113.8	113.0	112.0	112.9	114.3	115.3	113.8	112.9	110.0
25000	112.7	112.3	111.6	112.1	113.8	113.7	112.5	112.1	109.2
31500	111.6	111.4	110.7	111.2	112.4	112.2	111.4	110.7	107.6
40000	110.8	110.7	110.3	110.6	111.4	111.2	110.2	109.4	106.3
50000	109.7	109.4	109.5	110.3	110.5	110.1	109.3	108.4	105.2
63000	108.8	109.0	108.8	109.4	109.9	109.3	108.4	107.7	104.4
80000	108.0	108.1	108.1	108.6	109.3	108.8	108.0	107.0	103.7
TSPL	127.3	126.1	124.9	125.2	125.5	125.4	126.8	129.6	130.2
SSPL	127.3	126.1	124.9	125.2	125.5	125.4	126.8	129.6	130.1

V_∞ =	202	fps
T_a =	60	°F
RH_a =	3	%
P_a =	14.19	psia

A1-85

C2

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3623 CONDITION 3623

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
	P.R.		3.23	0.0		3.23	0.0	THRUST,IDL	LB	130.4	0.0	N	579.9	0.0
	TEMP	(R)	1251.0	0.0	(K)	695.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
	RHO	LB/FT3	0.043	0.0	KG/M3	0.696	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
	VEL	FPS	2078.0	0.0	M/S	633.4	0.0	W (MODEL)	LB/S	2.0	0.0	KG/S	0.9	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.6	84.2	88.9	89.8	87.5	84.4	85.1	87.9	91.9	105.9
.125	85.8	87.1	89.5	88.6	86.5	85.3	86.3	88.7	92.8	106.2
.160	85.2	87.7	87.8	88.6	87.4	86.6	86.1	88.9	94.2	106.4
.200	85.7	87.2	88.7	90.4	88.1	90.5	92.1	92.1	94.6	108.4
.250	89.4	90.9	91.6	92.4	93.5	91.5	93.2	96.7	99.3	111.7
.315	96.2	97.3	95.1	95.1	93.6	94.2	92.4	96.8	103.9	114.5
.400	98.4	96.3	94.9	94.3	94.8	93.6	98.2	100.1	104.7	115.6
.500	95.8	94.7	94.1	94.3	96.0	98.1	99.3	103.9	109.4	118.0
.630	97.6	96.9	96.7	97.4	97.1	99.2	102.4	106.4	111.3	120.2
.800	102.0	98.7	98.5	99.9	99.5	100.1	104.4	109.5	114.6	123.0
1.00	99.4	102.5	102.1	102.2	101.4	102.3	106.2	111.7	116.3	125.0
1.25	102.3	103.3	101.6	103.5	105.9	106.3	108.9	114.1	118.1	127.2
1.60	103.7	104.0	104.4	105.7	107.2	107.3	111.4	116.6	119.4	129.1
2.00	105.1	106.7	108.2	109.7	108.7	109.0	113.8	118.6	120.5	131.1
2.50	108.0	107.2	107.2	109.0	109.2	109.7	114.7	119.7	121.0	131.8
3.15	109.9	108.9	108.8	109.8	109.5	111.1	115.5	119.9	120.8	132.2
4.00	116.5	112.2	110.2	110.5	110.7	111.9	115.7	120.3	120.8	133.2
5.00	121.5	117.4	111.8	111.2	111.7	112.6	116.4	120.1	119.6	134.7
6.30	118.4	119.7	116.9	113.6	112.1	113.0	116.1	119.0	117.9	135.0
8.00	116.5	116.2	118.0	117.2	114.5	114.2	116.4	116.4	116.6	134.9
10.0	116.7	114.8	114.1	117.6	116.3	114.7	116.0	117.3	115.1	134.3
12.5	115.4	115.0	113.3	114.1	117.2	115.6	115.4	115.5	113.3	133.5
16.0	115.0	114.2	113.4	114.0	116.2	116.2	114.9	114.5	111.9	133.1
20.0	113.8	113.0	112.0	112.9	114.3	115.3	113.8	112.9	110.0	131.8
25.0	112.7	112.3	111.6	112.1	113.8	113.7	112.5	112.1	109.2	130.9
31.5	111.6	111.4	110.7	111.2	112.4	112.2	111.4	110.7	107.6	129.7
40.0	110.8	110.7	110.3	110.6	111.4	111.2	110.2	109.4	106.3	128.8
50.0	109.7	109.4	109.5	110.3	110.5	110.1	109.3	108.4	105.2	127.9
63.0	108.8	109.0	108.8	109.4	109.9	109.3	108.4	107.7	104.4	127.2
80.0	108.0	108.1	108.1	108.8	109.3	108.8	108.0	107.0	103.7	126.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 144.9
OSPL	127.3	126.1	124.9	125.2	125.5	125.4	126.8	129.6	130.2	

V_∞ =	202	fps
T_a =	60	°F
RH_a =	3	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO STND C OBS COPR
W631 315 05/20/76 -00 000000 XAKF 0 3624 3624

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	83.0	81.8	85.0	87.2	86.4	84.6	86.8	92.5	97.7
125	83.5	85.4	88.1	87.8	86.1	86.6	88.8	94.1	99.7
160	85.3	87.9	88.6	89.9	89.1	88.6	89.4	95.7	102.0
200	85.8	87.6	88.9	91.5	90.1	93.3	95.7	97.2	102.8
250	88.7	90.4	91.4	93.6	95.7	94.6	98.2	102.7	103.9
315	95.1	97.8	95.9	97.0	96.2	97.3	97.0	104.6	111.5
400	99.4	98.2	97.1	97.0	97.0	97.1	103.6	105.6	115.1
500	98.9	98.3	96.8	96.2	98.8	102.4	105.6	111.4	115.1
630	96.9	97.0	97.9	99.4	100.2	103.0	107.6	113.1	118.5
800	103.0	100.5	100.8	102.8	103.0	104.2	110.3	116.8	121.1
1000	100.9	104.1	104.1	105.7	105.7	106.0	112.1	119.2	122.4
1250	102.3	103.0	102.7	106.2	108.8	109.8	114.6	121.4	122.9
1600	102.7	104.7	104.6	106.6	109.8	110.9	117.1	123.1	123.0
2000	105.5	107.1	109.0	110.7	111.5	112.6	119.8	124.6	123.8
2500	107.0	106.6	107.4	111.0	111.9	113.4	120.9	125.5	123.6
3150	108.1	108.7	108.7	110.1	112.0	114.2	121.6	125.4	122.9
4000	114.5	111.6	110.3	112.0	113.0	115.2	121.7	125.8	121.7
5000	119.8	116.5	112.1	112.3	113.8	115.8	122.0	124.5	120.0
6300	117.8	119.1	116.7	114.2	114.0	116.0	121.5	122.9	118.3
8000	115.6	116.5	118.4	117.5	115.9	117.0	121.2	122.0	116.9
10000	115.7	114.7	114.9	118.5	117.7	117.2	120.4	120.6	115.2
12500	114.3	114.8	113.6	115.3	118.6	117.5	119.2	118.7	114.1
16000	113.9	114.0	113.7	114.6	118.2	118.1	118.1	117.5	112.8
20000	112.6	112.6	112.2	113.8	115.8	116.9	116.6	115.6	110.5
25000	111.4	111.8	111.8	112.8	115.1	115.4	115.5	114.7	109.4
31500	110.3	110.9	111.0	112.1	114.0	114.1	114.6	113.4	107.9
40000	109.7	110.2	110.5	111.4	112.8	113.2	113.4	112.2	106.8
50000	108.6	109.0	109.6	111.2	112.0	112.0	112.8	110.9	105.5
63000	107.6	108.5	109.1	110.3	111.5	111.5	111.8	110.6	105.0
80000	107.2	107.8	108.3	109.8	110.9	110.9	111.6	110.0	104.6
TSPL	126.1	125.7	125.2	126.1	127.3	127.8	131.8	134.6	133.0
SSPL	126.0	125.7	125.2	126.1	127.3	127.8	131.8	134.6	132.9

V_∞ =	103	fps
T_a =	75	°F
RH_a =	3	%
Pa =	14.43	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3624 3624

F DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	126.5	126.0	125.3	126.0	127.0	127.3	131.1	133.8	132.3
SSPL	126.5	126.0	125.2	126.0	126.9	127.3	131.1	133.8	132.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	126.7	126.1	125.2	125.8	126.7	126.9	130.6	133.3	131.6
SSPL	126.7	126.1	125.2	125.8	126.7	126.9	130.6	133.2	131.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CODE
W631 315 05/20/76 -00 000000 XARF 0 3624 .. 4

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	83.7	82.2	85.1	86.9	85.7	83.7	85.1	89.6	94.4
125	84.2	85.9	88.2	87.5	85.5	85.6	87.2	91.3	96.2
160	86.0	88.3	88.7	89.6	88.5	87.7	87.8	92.6	98.3
200	86.5	88.0	89.0	91.2	89.5	92.3	94.3	95.1	98.9
250	89.4	90.8	91.5	93.4	95.1	95.7	96.5	100.4	102.4
315	95.8	98.2	95.9	96.7	95.6	96.4	95.5	101.2	107.6
400	100.1	96.5	97.1	96.7	96.4	96.1	101.8	103.2	109.4
500	99.6	98.6	96.8	96.0	96.3	101.4	103.9	108.7	112.6
630	97.6	97.4	98.0	99.2	99.7	102.0	105.8	110.3	115.1
800	103.7	100.8	100.9	102.6	102.4	103.2	108.3	113.9	118.4
1000	101.6	104.5	104.2	105.5	105.1	105.0	110.1	116.3	120.2
1250	103.0	103.4	102.8	106.1	108.3	108.8	112.7	118.7	121.5
1600	103.4	105.1	104.7	106.5	109.3	109.9	115.1	120.7	122.3
2000	106.2	107.6	109.1	110.5	111.0	111.6	117.8	122.5	123.3
2500	107.7	107.0	107.6	110.9	111.4	112.4	118.9	123.6	123.6
3150	108.7	109.0	108.7	109.9	111.4	113.1	119.6	123.6	123.0
4000	115.1	111.8	110.3	111.8	112.4	114.1	119.8	124.1	122.7
5000	120.4	116.6	112.0	112.0	113.3	114.7	120.2	123.1	121.0
6300	118.5	119.4	116.6	113.9	113.4	115.0	119.8	121.8	119.2
8000	116.3	116.9	118.5	117.2	115.3	116.0	119.7	121.1	116.6
10000	116.4	115.0	115.0	118.3	117.1	116.3	119.0	119.7	116.4
12500	114.9	115.1	113.6	115.1	118.0	116.6	117.9	117.6	114.8
16000	114.6	114.3	113.7	114.4	117.7	117.2	117.0	116.7	113.6
20000	113.2	112.9	112.2	113.6	115.3	116.0	115.5	114.9	111.4
25000	112.0	112.1	111.8	112.6	114.5	114.5	114.3	113.9	110.4
31500	110.9	111.2	111.0	111.9	113.4	113.2	113.4	112.8	109.6
40000	110.4	110.6	110.6	111.2	112.3	112.3	112.3	111.6	107.9
50000	109.3	109.4	109.7	111.0	111.4	111.1	111.7	110.4	106.5
63000	108.2	108.8	109.1	110.0	110.9	110.6	110.6	109.9	106.1
80000	107.9	108.2	108.4	109.6	110.3	110.0	110.5	109.5	105.6
TSPL	126.7	126.0	125.2	125.9	126.7	126.9	130.1	133.0	132.6
SSPL	126.7	126.0	125.2	125.9	126.7	126.9	130.1	133.0	132.5

V_∞ =	103	fps
T_a =	75	°F
RH_a =	3	%
P_a =	14.43	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=103 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3624 CONDITION 3624

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			3.22	0.0		3.22	0.0	THRUST,IDL	LB	170.9		0.0	N	760.0	0.0
TEMP	(R)	1259.0		0.0	(K)	699.4	0.0	THRUST,MEA	LB		0.0		N	0.0	
RHO	LB/FT3	0.043		0.0	KG/M3	0.691	0.0	AREA (MOD)	SQFT	0.03		0.0	SQM	0.003	0.0
VEL	FPS	2084.0		0.0	M/S	635.2	0.0	W (MODEL)	LB/S	2.6		0.0	KG/S	1.2	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	83.7	82.2	85.1	86.9	85.7	83.7	85.1	89.6	94.4	105.0
.125	84.2	85.9	88.2	87.5	85.5	85.6	87.2	91.3	96.2	106.7
.160	86.0	88.3	88.7	89.6	88.5	87.7	87.8	92.6	98.3	108.4
.200	86.5	88.0	89.0	91.2	89.5	92.3	94.3	95.1	98.9	110.5
.250	89.4	90.8	91.5	93.4	95.1	93.7	96.5	100.4	102.4	113.9
.315	95.8	98.2	95.9	96.7	95.6	96.4	95.5	101.2	107.6	116.9
.400	100.1	98.5	97.1	96.7	96.4	96.1	101.8	103.2	109.4	118.8
.500	99.6	98.6	96.8	96.0	98.3	101.4	103.9	108.7	112.6	121.8
.630	97.6	97.4	96.0	99.2	99.7	102.0	105.8	110.3	115.1	123.5
.800	103.7	100.8	100.9	102.6	102.4	103.2	108.3	113.9	116.4	126.7
1.00	101.6	104.5	104.2	105.5	105.1	105.0	110.1	116.3	120.2	128.9
1.25	103.0	103.4	102.8	106.1	106.3	108.8	112.7	118.7	121.5	130.8
1.60	103.4	105.1	104.7	106.5	109.3	109.9	115.1	120.7	122.3	132.3
2.00	106.2	107.6	109.1	110.5	111.0	111.6	117.8	122.5	123.3	134.2
2.50	107.7	107.0	107.6	110.9	111.4	112.4	118.9	123.6	123.6	135.0
3.15	108.7	109.0	108.7	109.9	111.4	113.1	119.6	123.6	123.0	135.1
4.00	115.1	111.8	110.3	111.8	112.4	114.1	119.8	124.1	122.7	135.7
5.00	120.4	116.6	112.0	112.0	113.3	114.7	120.2	123.1	121.0	136.1
6.30	118.5	119.4	116.6	113.9	113.4	115.0	119.8	121.8	119.2	136.2
8.00	116.3	116.9	118.5	117.2	115.3	116.0	119.7	121.1	118.0	136.2
10.0	116.4	115.0	115.0	118.3	117.1	116.3	119.0	119.7	116.4	135.5
12.5	114.9	115.1	113.6	115.1	118.0	116.6	117.9	117.8	114.8	134.6
16.0	114.6	114.3	113.7	114.4	117.7	117.2	117.0	116.7	113.6	134.1
20.0	113.2	112.9	112.2	113.6	115.3	116.0	115.5	114.9	111.4	132.6
25.0	112.0	112.1	111.8	112.6	114.5	114.5	114.3	113.9	110.4	131.6
31.5	110.9	111.2	111.0	111.9	113.4	113.2	113.4	112.8	109.0	130.6
40.0	110.4	110.6	110.6	111.2	112.3	112.3	112.3	111.6	107.9	129.7
50.0	109.3	109.4	109.7	111.0	111.4	111.1	111.7	110.4	106.5	128.8
63.0	108.2	108.8	109.1	110.0	110.9	110.6	110.6	109.9	106.1	128.1
80.0	107.9	108.2	108.4	109.6	110.3	110.0	110.5	109.5	105.6	127.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	126.7	126.0	125.2	125.9	126.7	126.9	130.1	133.0	132.6	

OAPWL = 146.6

V_∞ =	103	fps
T_a =	75	°F
RH_a =	3	%
P_a =	14.43	psia

DECK LD DATE ENG MOD ENG NO STND C OBS [illegible]
W631 315 05/20/76 -00 000000 XARF 0 3626 [illegible]

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.7	73.6	83.2	85.5	84.1	81.2	83.6	88.8	91.5
125	78.9	81.1	85.0	84.9	83.1	82.7	84.5	89.3	93.8
160	79.2	82.5	83.8	85.4	84.7	84.1	85.0	90.7	96.1
200	80.0	81.7	84.7	87.0	85.2	88.4	90.9	91.8	97.1
250	84.0	85.9	87.1	88.5	90.7	89.3	92.9	97.5	98.1
315	90.1	92.0	90.7	91.2	90.6	91.6	91.9	99.5	105.6
400	92.5	91.5	90.7	90.9	91.9	92.0	98.4	100.8	108.8
500	90.5	90.0	90.1	90.8	93.2	96.0	99.5	105.8	109.9
630	92.2	92.1	92.7	94.3	94.7	97.7	102.5	107.7	112.7
800	97.0	94.6	95.1	97.1	97.4	98.8	104.9	110.9	115.1
1000	95.1	98.5	98.8	99.9	99.5	101.2	106.6	113.3	116.1
1250	97.7	99.0	98.0	101.0	103.7	104.9	109.3	115.5	116.6
1600	98.9	99.6	100.5	102.7	104.9	106.4	111.6	117.3	117.2
2000	100.1	102.4	104.6	106.7	106.5	107.8	114.0	118.7	117.6
2500	102.2	102.0	103.0	105.9	106.8	108.4	114.5	119.3	117.1
3150	102.5	103.3	104.2	106.4	107.0	109.6	114.9	119.4	117.2
4000	103.6	103.8	103.7	105.6	107.5	110.5	114.8	119.9	116.6
5000	105.8	104.9	104.5	106.7	108.8	111.1	114.8	119.2	115.8
6300	111.6	108.2	106.3	107.2	108.7	111.4	114.1	118.3	114.3
8000	113.8	112.1	108.7	107.8	109.3	111.8	113.8	117.7	112.5
10000	110.9	112.2	111.5	109.8	109.5	111.1	112.9	116.1	110.7
12500	108.9	108.5	110.1	111.7	110.7	111.1	111.7	114.1	109.1
16000	106.8	106.5	107.3	110.2	111.9	111.4	110.7	112.1	107.4
20000	107.2	107.2	106.9	107.9	110.9	111.1	109.2	110.1	104.9
25000	106.3	106.4	106.2	107.6	109.9	110.6	108.3	109.0	103.6
31500	105.1	105.4	105.4	106.4	108.3	108.8	107.3	107.1	101.8
40000	104.2	104.5	104.8	105.8	106.8	107.2	105.6	105.7	100.4
50000	103.1	103.4	103.8	105.5	106.1	106.0	104.7	104.2	96.9
63000	102.0	102.7	103.4	104.4	105.3	105.0	103.4	103.1	97.6
80000	101.2	101.7	102.2	103.6	104.5	104.2	102.7	102.2	96.8
TSPL	120.0	119.5	119.0	120.1	121.2	122.4	124.9	129.1	127.3
SPL	120.0	119.5	119.0	120.0	121.2	122.4	124.8	129.0	127.2

V_∞ =	201	fps
T_a =	60	°F
RH_a =	6	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO STND C OBS C R
W631 315 05/20/76 -60 000000 XARF 0 3626 .. 26

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	120.9	120.1	119.2	119.9	120.6	121.4	123.6	127.6	126.6
SSPL	120.9	120.0	119.2	119.8	120.6	121.4	123.5	127.6	126.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	121.3	120.2	119.1	119.5	120.0	120.6	122.5	126.5	125.1
SSPL	121.3	120.2	119.1	119.5	120.0	120.5	122.5	126.5	125.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3626 3626

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.0	74.6	84.0	84.9	82.8	79.5	80.5	84.0	87.7
125	80.2	82.1	85.2	84.2	81.8	80.8	81.6	84.5	88.7
160	80.5	83.4	84.0	84.8	83.4	82.3	82.2	85.4	90.5
200	81.3	82.6	85.1	86.4	84.0	86.4	88.1	88.5	91.1
250	85.3	86.7	87.3	88.0	89.5	87.5	89.6	93.2	95.6
315	91.4	92.7	90.6	90.6	89.4	89.7	89.0	93.2	99.7
400	93.8	92.1	90.6	90.3	90.7	90.6	94.8	96.9	101.1
500	91.8	90.7	90.1	90.3	92.1	94.0	96.2	100.5	105.2
630	93.5	92.7	92.9	93.8	93.6	95.6	99.0	102.8	107.3
800	98.3	95.1	95.3	96.6	96.2	96.8	101.1	105.8	110.3
1000	96.4	99.3	98.9	99.3	98.3	99.2	102.9	108.1	112.4
1250	99.0	99.7	98.2	100.7	102.6	102.9	105.8	110.5	114.0
1600	100.2	100.4	100.8	102.3	103.6	104.4	108.0	112.7	115.4
2000	101.4	103.8	105.0	106.2	105.4	105.6	110.3	114.7	116.4
2500	103.6	102.7	103.4	105.5	105.7	106.4	110.6	115.4	116.6
3150	103.8	104.0	104.4	105.9	105.8	107.5	111.3	115.5	116.6
4000	104.9	104.4	103.8	105.1	106.4	106.4	111.4	115.8	116.8
5000	107.1	105.5	104.6	106.3	107.7	109.1	111.6	115.4	116.1
6300	112.9	106.6	106.2	106.7	107.6	109.4	111.1	114.6	115.0
8000	115.2	112.5	108.4	107.3	108.2	109.9	111.0	114.2	114.0
10000	112.2	112.9	111.3	109.1	108.3	109.2	110.1	112.9	112.2
12500	110.2	109.2	110.3	111.1	109.4	109.3	109.2	111.1	110.2
16000	110.1	109.1	107.5	109.8	110.7	109.7	106.5	109.4	108.3
20000	108.5	107.8	106.9	107.5	109.8	109.4	107.3	107.6	106.1
25000	107.6	107.0	106.3	107.1	106.7	108.9	106.4	106.5	104.9
31500	106.4	106.0	105.5	105.9	107.1	107.1	105.4	105.1	102.9
40000	105.5	105.2	104.9	105.3	105.7	105.5	103.7	103.6	101.6
50000	104.4	104.1	104.0	105.0	104.9	104.3	102.8	102.3	100.0
63000	103.3	103.4	103.5	103.8	104.1	103.3	101.4	101.1	98.8
80000	102.5	102.4	102.4	103.1	103.3	102.5	100.8	100.3	98.0
TSPL	121.3	120.1	119.0	119.6	120.0	120.5	121.8	125.2	126.3
SSPL	121.3	120.1	119.0	119.5	120.0	120.5	121.8	125.2	126.3

V_∞ =	201	fps
T_a =	60	°F
RH_a =	6	%
P_a =	14.19	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3626 CONDITION 3626

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		2.52	0.0		2.52	0.0	THRUST,IDL	LB	127.0	0.0	N	565.0	0.0
TEMP	(R)	1254.0	0.0	(K)	696.7	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.041	0.0	KG/M3	0.650	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1876.0	0.0	M/S	571.8	0.0	W (MODEL)	LB/S	2.2	0.0	KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.0	74.6	84.0	84.9	82.8	79.5	80.5	84.0	87.7	101.0
.125	80.2	82.1	85.2	84.2	81.8	80.8	81.6	84.5	88.7	101.8
.160	80.5	83.4	84.0	84.8	83.4	82.3	82.2	85.4	90.5	102.5
.200	81.3	82.6	85.1	86.4	84.0	86.4	88.1	88.5	91.1	104.5
.250	85.3	86.7	87.3	88.0	89.5	87.5	89.6	93.2	95.6	107.8
.315	91.4	92.7	90.6	90.6	89.4	89.7	89.0	93.2	99.7	110.2
.400	93.8	92.1	90.6	90.3	90.7	96.0	94.8	96.9	101.1	111.9
.500	91.8	90.7	90.1	90.3	92.1	94.0	96.2	100.5	105.2	114.2
.630	93.5	92.7	92.9	93.8	93.6	95.6	99.0	102.8	107.3	116.5
.800	98.3	95.1	95.3	96.6	96.2	96.8	101.1	105.8	110.3	119.2
1.00	96.4	99.3	98.9	99.3	98.3	99.2	102.9	108.1	112.4	121.5
1.25	99.0	99.7	98.2	100.7	102.6	102.9	105.8	110.5	114.6	123.6
1.60	100.2	100.4	100.8	102.3	103.8	104.4	106.0	112.7	115.4	125.4
2.00	101.4	103.3	105.0	106.2	105.4	105.8	110.3	114.7	116.4	127.3
2.50	103.6	102.7	103.4	105.5	105.7	106.4	110.8	115.4	116.6	127.6
3.15	103.8	104.6	104.4	105.9	105.8	107.5	111.3	115.5	116.6	128.0
4.00	104.9	104.4	103.8	105.1	106.4	108.4	111.4	115.8	116.8	128.2
5.00	107.1	105.5	104.6	106.3	107.7	109.1	111.6	115.4	116.1	128.3
6.30	112.9	108.6	106.2	106.7	107.6	109.4	111.1	114.6	115.0	128.6
8.00	115.2	112.5	108.4	107.3	106.2	109.9	111.0	114.2	114.0	129.6
10.0	112.2	112.9	111.3	109.1	108.3	109.2	110.1	112.9	112.2	129.3
12.5	110.2	109.2	110.3	111.1	109.4	109.3	109.2	111.1	110.2	128.3
16.0	110.1	109.1	107.5	109.8	110.7	109.7	108.5	109.4	108.3	127.7
20.0	108.5	107.8	106.9	107.5	109.8	109.4	107.3	107.6	106.1	126.4
25.0	107.6	107.0	106.3	107.1	108.7	108.9	106.4	106.5	104.9	125.7
31.5	106.4	106.0	105.5	105.9	107.1	107.1	105.4	105.1	102.9	124.3
40.0	105.5	105.2	104.9	105.3	105.7	105.5	103.7	103.6	101.6	123.2
50.0	104.4	104.1	104.0	105.0	104.9	104.3	102.8	102.3	100.0	122.3
63.0	103.3	103.4	103.5	103.8	104.1	103.3	101.4	101.1	98.8	121.4
80.0	102.5	102.4	102.4	103.1	103.3	102.5	100.8	100.3	98.0	120.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	121.3	120.1	119.0	119.6	120.0	120.5	121.8	125.2	126.3	

OAPWL = 139.8

V_∞ =	201	fps
T_a =	60	°F
RH_a =	6	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO STNO C OBS [illegible]
W631 315 05/20/76 -00 000000 XARF 0 3627 [illegible]

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	79.0	77.7	80.9	83.2	82.3	80.6	82.8	87.3	91.8
125	80.0	82.0	84.3	84.1	82.6	83.2	85.2	89.2	94.5
160	81.6	84.5	85.3	86.7	85.6	85.4	86.1	91.4	97.5
200	82.6	84.1	85.8	86.4	86.7	89.4	92.1	93.4	98.4
250	85.0	87.0	87.7	89.5	92.0	91.0	94.5	99.3	99.8
315	90.8	93.5	92.0	93.1	92.6	93.5	93.9	100.8	107.6
400	95.0	94.1	93.2	93.7	93.4	93.8	100.5	102.5	111.1
500	95.0	94.2	93.0	92.4	95.0	98.4	102.6	107.8	111.0
630	93.0	93.2	94.1	95.7	96.7	99.7	104.4	109.6	114.9
800	99.3	96.8	97.5	99.3	99.8	101.2	107.1	113.2	117.2
1000	97.3	100.2	100.4	102.4	102.4	103.3	108.9	115.5	118.6
1250	98.7	99.3	99.2	102.9	105.6	106.6	111.2	117.7	119.3
1600	99.1	101.3	101.2	103.6	106.5	108.0	113.8	119.4	119.4
2000	101.8	103.5	105.9	106.9	108.3	109.6	116.3	120.6	120.1
2500	102.7	102.7	104.1	107.5	108.3	110.4	116.9	121.5	119.7
3150	102.8	104.3	105.3	106.4	108.7	111.0	117.4	121.5	119.8
4000	104.2	104.6	104.8	107.5	109.4	112.1	117.3	122.2	119.0
5000	106.3	105.5	105.3	107.3	110.1	112.7	117.1	121.3	118.0
6300	111.4	108.5	107.1	108.1	110.0	113.0	116.4	120.3	116.4
8000	114.2	112.4	109.0	108.7	110.7	113.3	115.6	119.5	114.9
10000	111.8	113.0	111.8	110.3	110.7	112.6	114.7	117.8	113.3
12500	109.6	109.5	111.0	112.0	111.5	112.3	113.3	115.9	112.0
16000	109.5	109.2	108.5	111.0	112.7	112.4	112.3	114.3	110.4
20000	108.0	107.9	107.7	108.7	111.7	111.8	110.6	112.3	107.9
25000	107.1	107.2	107.2	108.4	110.8	111.0	109.4	111.3	106.8
31500	105.9	106.3	106.3	107.3	109.3	109.5	108.6	109.7	105.2
40000	105.3	105.4	105.7	106.7	108.0	108.3	107.3	108.4	104.0
50000	104.1	104.4	104.9	106.5	107.2	107.1	106.3	107.2	102.7
63000	103.1	103.9	104.5	105.6	106.7	106.4	105.3	106.8	101.8
80000	102.6	102.8	103.6	105.0	105.9	105.8	104.9	106.2	101.2
TSPL	120.6	120.3	119.8	120.9	122.4	123.7	127.0	131.2	129.7
SSPL	120.6	120.2	119.8	120.9	122.4	123.7	127.0	131.1	129.6

V_∞ =	100	fps
T_a =	69	°F
RH_a =	8	%
P_a =	14.44	psia

DECK LD DATE ENG MOD ENG NO STND C OBS (-n
W631 315 05/20/76 -00 000000 XARF 0 3627 3627

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	121.0	120.5	119.9	120.8	122.1	123.2	126.3	130.3	129.0
SSPL	121.0	120.5	119.9	120.7	122.1	123.2	126.3	130.3	128.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	121.3	120.6	119.9	120.6	121.8	122.8	125.6	129.8	128.3
SSPL	121.2	120.6	119.8	120.6	121.8	122.8	125.8	129.8	128.2

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS (RR
W631 315 05/20/76 -00 000000 XARF 0 3627 ..5 7

UBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.7	78.1	81.0	82.9	81.7	79.7	81.2	84.7	86.8
125	80.7	82.4	84.4	83.8	82.0	82.3	83.6	86.6	91.0
160	82.3	84.9	85.4	86.4	85.0	84.5	84.6	88.5	93.7
200	83.3	84.5	85.9	88.1	86.1	86.4	90.6	91.4	94.7
250	85.7	87.4	87.8	89.3	91.4	90.1	92.8	97.0	98.7
315	91.5	93.9	92.0	92.8	92.0	92.6	92.3	97.5	103.7
400	95.7	94.4	93.2	93.4	92.8	92.8	98.7	100.2	105.8
500	95.7	94.5	93.0	92.2	94.5	97.3	100.8	105.2	108.6
630	93.7	93.6	94.2	95.5	96.2	96.6	102.6	106.9	111.5
800	100.0	97.1	97.6	99.1	99.3	100.2	105.1	110.4	114.6
1000	98.0	100.6	100.5	102.2	101.8	102.3	106.9	112.7	116.4
1250	99.4	99.7	99.3	102.8	105.1	105.6	109.3	115.0	117.8
1600	99.8	101.7	101.3	103.5	106.0	107.0	111.9	117.1	118.6
2000	102.5	104.0	106.0	106.7	107.8	108.6	114.4	118.6	119.4
2500	103.4	103.1	104.3	107.4	107.8	109.4	115.0	119.6	119.7
3150	103.4	104.7	105.3	106.2	108.2	109.9	115.4	119.6	119.6
4000	104.8	104.9	104.9	107.3	108.9	111.0	115.4	120.2	119.6
5000	106.9	105.8	105.3	107.1	109.6	111.6	115.3	119.5	118.6
6300	112.1	108.7	107.1	107.9	109.5	112.0	114.8	118.6	117.3
8000	114.9	112.6	109.0	108.5	110.2	112.3	114.1	117.9	116.1
10000	112.5	113.3	111.7	110.0	110.1	111.6	113.2	116.3	114.4
12500	110.2	109.8	111.0	111.7	110.9	111.3	111.9	114.4	112.7
16000	110.2	109.5	108.6	110.8	112.1	111.5	111.0	112.9	111.1
20000	108.6	108.2	107.7	108.5	111.2	110.9	109.4	111.0	108.8
25000	107.7	107.5	107.2	108.2	110.2	110.1	108.2	109.9	107.7
31500	106.5	106.6	106.3	107.1	108.7	108.6	107.4	108.5	106.0
40000	106.0	105.8	105.8	106.5	107.5	107.5	106.2	107.2	104.8
50000	104.8	104.8	105.0	106.3	106.6	106.2	105.2	106.1	103.5
63000	103.7	104.2	104.5	105.3	106.1	105.5	104.1	105.5	102.9
80000	103.3	103.2	103.7	104.8	105.3	104.9	103.8	105.0	102.3
TSPL	121.3	120.5	119.9	120.7	121.9	122.7	125.3	129.2	129.3
SSPL	121.2	120.5	119.8	120.6	121.8	122.7	125.3	129.2	129.3

V_∞ =	100	fps
T_a =	69	°F
RH_a =	8	%
P_a =	14.44	psia

200360F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3627 CONDITION 3627

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
----- -- --	P.R.		2.52	0.0		2.52	0.0	THRUST,IDL	LB	126.2	0.0	N	561.6	0.0
	TEMP	(R)	1256.0	0.0	(K)	698.9	0.0	THRUST,MEA	LB	0.0		N	0.0	
	RHO	LB/FT3	0.040	0.0	KG/M3	0.649	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
	VEL	FPS	1862.0	0.0	M/S	573.6	0.0	W (MODEL)	LB/S	2.2	0.0	KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.7	78.1	81.0	82.9	81.7	79.7	81.2	84.7	88.8	100.5
.125	80.7	82.4	84.4	83.8	82.0	82.3	83.6	86.6	91.0	102.5
.160	82.3	84.9	85.4	86.4	85.0	84.5	84.6	88.5	93.7	104.7
.200	83.3	84.5	85.9	88.1	86.1	88.4	90.6	91.4	94.7	106.8
.250	85.7	87.4	87.8	89.3	91.4	90.1	92.8	97.0	98.7	110.3
.315	91.5	93.9	92.0	92.8	92.0	92.6	92.3	97.5	103.7	113.1
.400	95.7	94.4	93.2	93.4	92.8	92.8	98.7	100.2	105.8	115.3
.500	95.7	94.5	93.0	92.2	94.5	97.3	100.8	105.2	108.6	118.1
.630	93.7	93.6	94.2	95.5	96.2	98.6	102.6	106.9	111.5	120.0
.800	100.0	97.1	97.6	99.1	99.3	100.2	105.1	110.4	114.6	123.2
1.00	98.0	100.6	100.5	102.2	101.8	102.3	106.9	112.7	116.4	125.3
1.25	99.4	99.7	99.3	102.8	105.1	105.6	109.3	115.0	117.8	127.2
1.60	99.8	101.7	101.3	103.5	106.0	107.0	111.9	117.1	118.6	128.8
2.00	102.5	104.0	106.0	106.7	107.8	108.6	114.4	118.6	119.4	130.5
2.50	103.4	103.1	104.3	107.4	107.8	109.4	115.0	119.6	119.7	131.1
3.15	103.4	104.7	105.3	106.2	108.2	109.9	115.4	119.6	119.6	131.2
4.00	104.8	104.9	104.9	107.3	108.9	111.0	115.4	120.2	119.6	131.6
5.00	106.9	105.8	105.3	107.1	109.6	111.6	115.3	119.5	118.6	131.3
6.30	112.1	108.7	107.1	107.9	109.5	112.0	114.8	118.6	117.3	131.1
8.00	114.9	112.6	109.0	108.5	110.2	112.3	114.1	117.9	116.1	131.4
10.0	112.5	113.3	111.7	110.0	110.1	111.6	113.2	116.3	114.4	130.9
12.5	110.2	109.8	111.0	111.7	110.9	111.3	111.9	114.4	112.7	129.9
16.0	110.2	109.5	108.6	110.8	112.1	111.5	111.0	112.9	111.1	129.2
20.0	108.6	108.2	107.7	108.5	111.2	110.9	109.4	111.0	108.8	127.9
25.0	107.7	107.5	107.2	108.2	110.2	110.1	108.2	109.9	107.7	127.0
31.5	106.5	106.6	106.3	107.1	108.7	108.6	107.4	108.5	106.0	125.8
40.0	106.0	105.8	105.8	106.5	107.5	107.5	106.2	107.2	104.8	124.9
50.0	104.8	104.8	105.0	106.3	106.6	106.2	105.2	106.1	103.5	123.9
63.0	103.7	104.2	104.5	105.3	106.1	105.5	104.1	105.5	102.9	123.2
80.0	103.3	103.2	103.7	104.8	105.3	104.9	103.8	105.0	102.3	122.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	121.3	120.5	119.9	120.7	121.9	122.7	125.3	129.2	129.3	

OAPWL = 142.2

V_{oo} =	100	fps
T_a =	69	°F
RH_a =	8	%
P_a =	14.44	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3629 3629

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.9	78.3	74.6	78.0	78.3	74.2	78.4	83.6	89.9
125	77.1	67.0	78.6	78.8	77.9	75.9	79.0	83.9	81.2
160	76.3	73.3	78.3	79.6	79.2	77.5	79.5	85.6	88.2
200	66.2	71.4	78.4	81.0	79.6	82.2	85.1	86.8	88.0
250	77.0	78.9	80.9	81.5	84.3	83.0	87.1	91.7	89.0
315	82.9	84.8	84.2	84.3	84.3	85.5	86.9	93.5	96.6
400	85.1	84.9	84.4	85.4	85.8	86.4	92.9	95.1	102.0
500	84.5	84.1	84.2	84.9	87.0	90.2	94.1	99.9	103.2
630	85.7	86.0	86.8	88.1	89.1	92.2	96.8	101.8	106.1
800	91.6	89.0	89.8	91.6	92.2	93.6	99.4	104.8	108.5
1000	89.6	92.8	93.2	94.3	94.2	95.9	100.9	107.0	109.4
1250	92.1	93.2	92.3	95.4	98.0	99.0	103.1	108.9	110.3
1600	93.1	93.8	94.6	96.4	99.1	100.3	104.8	110.2	110.7
2000	94.2	96.3	98.3	100.0	100.2	101.5	106.7	111.2	111.3
2500	95.3	95.1	96.2	99.6	100.4	102.0	106.5	111.3	110.6
3150	95.0	96.1	97.3	99.2	100.7	102.6	106.2	110.0	110.0
4000	94.9	95.4	95.9	98.4	100.9	103.3	105.6	109.4	108.9
5000	94.2	95.5	96.0	98.9	101.4	103.6	105.5	107.5	107.3
6300	93.2	94.6	96.0	98.5	101.1	103.6	104.9	105.7	105.0
8000	93.1	94.1	95.3	98.2	101.4	103.8	104.4	104.7	102.8
10000	92.4	93.8	94.7	97.4	100.6	102.7	103.3	103.2	100.3
12500	91.5	92.7	94.0	96.6	99.8	101.9	101.9	100.8	98.0
16000	90.8	92.2	93.0	96.0	99.3	101.0	100.5	98.8	95.6
20000	89.3	90.6	91.8	94.5	97.6	99.3	98.3	96.3	92.6
25000	88.5	89.8	91.0	93.8	97.0	97.9	96.8	94.9	90.7
31500	87.4	88.8	90.1	92.5	95.5	96.3	95.0	92.8	88.7
40000	86.8	87.7	89.2	91.6	94.2	94.9	93.0	91.0	87.3
50000	85.9	86.8	88.3	90.9	93.0	93.2	91.6	89.2	85.3
63000	85.0	86.1	87.6	89.5	91.8	91.9	90.0	88.0	84.2
80000	84.2	84.9	86.3	88.5	90.6	90.7	88.8	86.6	83.4
TSPL	105.4	106.4	107.4	109.8	112.0	113.8	116.2	119.7	120.1
SSPL	105.3	106.3	107.3	109.7	112.0	113.8	116.1	119.6	120.0

V_∞ =	198	fps
T_a =	61	°F
RH_a =	8	%
P_a =	14.20	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3629 3629

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	106.3	106.9	107.6	109.6	111.4	112.9	114.9	118.2	119.4
SSPL	106.2	106.8	107.5	109.5	111.4	112.9	114.8	118.2	119.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	106.7	107.1	107.5	109.2	110.8	112.0	113.8	117.1	117.9
SSPL	106.6	107.0	107.4	109.2	110.8	112.0	113.8	117.1	117.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/20/76		-00 000000	XARF	0	3629	3629

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	80.2	78.7	74.6	77.6	77.1	72.5	75.0	78.5	83.6
125	78.4	67.9	79.4	78.2	76.6	74.1	75.8	79.8	81.0
160	77.6	74.1	78.7	79.1	77.9	75.8	76.4	80.5	84.5
200	69.5	72.6	79.1	80.4	78.4	80.2	82.2	83.6	84.9
250	78.3	79.8	81.1	81.1	83.1	81.2	83.8	87.8	88.8
315	84.2	85.5	84.2	83.7	83.1	83.6	83.9	88.0	92.7
400	86.5	85.5	84.5	84.8	84.7	84.4	89.3	91.3	95.0
500	85.9	84.7	84.3	84.4	85.9	88.1	90.8	94.9	99.0
630	87.0	86.7	86.9	87.6	88.0	90.1	93.4	97.1	101.2
800	92.9	89.6	90.0	91.1	91.0	91.6	95.7	100.0	104.0
1000	90.9	93.6	93.3	93.7	93.0	93.9	97.3	102.0	105.9
1250	93.4	93.8	92.5	95.1	96.9	97.1	99.7	104.1	107.4
1600	94.4	94.5	94.8	96.0	98.0	98.3	101.4	105.7	108.4
2000	95.5	97.2	98.6	99.5	99.1	99.5	103.2	107.1	109.2
2500	96.7	95.8	96.6	99.2	99.3	100.0	103.1	107.1	109.1
3150	96.3	96.8	97.5	98.7	99.5	100.6	103.0	106.1	107.8
4000	96.2	96.1	96.1	98.0	99.8	101.3	102.7	105.4	107.1
5000	95.5	96.2	96.3	98.5	100.3	101.6	102.8	104.3	105.1
6300	94.5	95.4	96.3	98.1	100.0	101.7	102.4	103.0	103.1
8000	94.4	94.9	95.7	97.9	100.4	101.9	102.1	102.3	101.7
10000	93.7	94.6	95.0	97.1	99.5	100.8	101.0	101.0	99.8
12500	92.8	93.4	94.3	96.2	98.7	100.0	99.8	99.0	97.3
16000	92.1	93.0	93.3	95.7	98.2	99.2	98.5	97.2	95.2
20000	90.6	91.4	92.1	94.2	96.5	97.5	96.4	94.9	92.5
25000	89.8	90.5	91.3	93.4	95.9	96.1	94.9	93.5	90.9
31500	88.7	89.6	90.4	92.1	94.4	94.5	93.2	91.5	88.8
40000	88.1	88.5	89.5	91.3	93.1	93.2	91.3	89.6	87.2
50000	87.2	87.6	88.6	90.5	91.9	91.5	89.9	88.0	85.3
63000	86.3	86.9	87.9	89.1	90.7	90.3	88.3	86.6	84.2
80000	85.6	85.6	86.6	88.1	89.4	89.0	87.1	85.2	82.9
TSPL	106.7	107.1	107.6	109.4	110.9	111.9	113.3	115.8	117.7
SSPL	106.6	107.0	107.6	109.3	110.9	111.9	113.2	115.7	117.6

V_∞ =	198	fps
T_a =	61	°F
RH_a =	8	%
P_a =	14.20	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/20/76 SCALE RATIO 0.0/1 RUN NUMBER 3629 CONDITION 3629

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.61	0.0		1.61	0.0	THRUST,IDL	LB	76.9	0.0	N	342.1	0.0
TEMP	(R)	1254.0	0.0	(K)	696.7	0.0		THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.037	0.0	KG/M3	0.597	0.0		AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1538.0	0.0	M/S	468.8	0.0		W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	80.2	78.7	74.6	77.6	77.1	72.5	75.0	78.5	83.6	95.9
.125	78.4	67.9	79.4	78.2	76.6	74.1	75.6	79.8	81.0	95.7
.160	77.6	74.1	78.7	79.1	77.9	75.8	76.4	80.5	84.5	96.7
.200	69.5	72.6	79.1	80.4	78.4	80.2	82.2	83.6	84.9	98.5
.250	78.3	79.8	81.1	81.1	83.1	81.2	83.8	87.8	86.8	101.5
.315	84.2	85.5	84.2	83.7	83.1	83.6	83.9	88.0	92.7	103.8
.400	86.5	85.5	84.5	84.8	84.7	84.4	89.3	91.3	95.0	105.9
.500	85.9	84.7	84.3	84.4	85.9	88.1	90.6	94.9	99.0	106.3
.630	87.0	86.7	86.9	87.6	88.0	90.1	93.4	97.1	101.2	110.6
.800	92.9	89.6	90.0	91.1	91.0	91.6	95.7	100.0	104.0	113.4
1.00	90.9	93.6	93.3	93.7	93.0	93.9	97.3	102.0	105.9	115.5
1.25	93.4	93.8	92.5	95.1	96.9	97.1	99.7	104.1	107.4	117.4
1.60	94.4	94.5	94.8	96.0	98.0	98.3	101.4	105.7	108.4	118.7
2.00	95.5	97.2	98.6	99.5	99.1	99.5	103.2	107.1	109.2	120.3
2.50	96.7	95.8	96.6	99.2	99.3	100.0	103.1	107.1	109.1	120.1
3.15	96.3	96.8	97.5	98.7	99.5	100.6	103.0	106.1	107.8	119.7
4.00	96.2	96.1	96.1	98.0	99.8	101.3	102.7	105.4	107.1	119.3
5.00	95.5	96.2	96.3	98.5	100.3	101.6	102.8	104.3	105.1	118.9
6.30	94.5	95.4	96.3	98.1	100.0	101.7	102.4	103.0	103.1	118.3
8.00	94.4	94.9	95.7	97.9	100.4	101.9	102.1	102.3	101.7	118.0
10.0	93.7	94.6	95.0	97.1	99.5	100.8	101.0	101.0	99.8	117.0
12.5	92.8	93.4	94.3	96.2	98.7	100.0	99.8	99.0	97.3	115.8
16.0	92.1	93.0	93.3	95.7	98.2	99.2	98.5	97.2	95.2	114.9
20.0	90.6	91.4	92.1	94.2	96.5	97.5	96.4	94.9	92.5	113.1
25.0	89.8	90.5	91.3	93.4	95.9	96.1	94.9	93.5	90.9	112.0
31.5	88.7	89.6	90.4	92.1	94.4	94.5	93.2	91.5	88.8	110.6
40.0	88.1	88.5	89.5	91.3	93.1	93.2	91.3	89.6	87.2	109.3
50.0	87.2	87.6	88.6	90.5	91.9	91.5	89.9	88.0	85.3	108.1
63.0	86.3	86.9	87.9	89.1	90.7	90.3	88.3	86.6	84.2	106.9
80.0	85.6	85.6	86.6	88.1	89.4	89.0	87.1	85.2	82.9	105.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	106.7	107.1	107.6	109.4	110.9	111.9	113.3	115.8	117.7	

V_∞ =	198	fps
T_a =	61	°F
RH_a =	8	%
P_a =	14.20	psia

OAPWL = 130.0

DECK LD DATE ENG MOD ENG NO STNO C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3630 3630

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.4	71.6	74.5	76.6	76.1	74.3	77.1	80.9	84.7
125	75.1	77.4	79.7	79.2	77.1	78.0	79.8	83.5	88.5
160	76.2	79.6	80.2	81.4	80.4	80.0	81.2	86.4	91.8
200	77.8	79.1	80.0	82.8	81.6	84.0	87.2	88.4	92.6
250	79.9	81.9	82.3	83.2	86.2	85.8	89.0	93.9	94.1
315	84.4	86.6	85.7	86.7	86.9	87.8	89.4	94.9	101.6
400	88.1	87.8	87.3	87.9	87.8	88.8	94.8	97.1	104.8
500	89.0	88.0	87.0	87.1	89.4	92.6	97.1	101.8	104.6
630	87.1	87.2	88.2	90.2	91.5	94.4	99.1	103.9	108.7
800	93.8	91.1	92.0	93.8	94.6	96.1	101.6	107.0	110.7
1000	92.0	94.4	94.8	96.9	97.2	98.1	103.2	109.2	112.3
1250	93.3	93.7	93.8	97.4	99.8	100.8	105.3	111.3	113.0
1600	93.9	95.8	95.7	98.1	100.7	102.4	107.4	112.6	113.6
2000	96.3	97.7	100.0	101.0	102.2	103.6	109.3	113.9	114.4
2500	96.4	96.8	98.3	101.4	102.5	104.0	108.9	113.9	114.0
3150	96.6	97.9	98.9	100.2	102.8	104.6	108.6	113.1	114.0
4000	96.6	97.5	97.4	100.5	103.0	105.3	107.7	112.3	112.7
5000	96.4	97.4	98.2	100.5	103.3	105.7	107.7	110.4	111.4
6300	95.4	96.7	97.9	100.4	103.0	105.7	107.0	108.5	109.4
8000	95.2	96.2	97.2	100.1	103.3	105.9	106.4	107.6	107.1
10000	94.8	96.0	96.8	99.7	102.7	104.9	105.4	106.0	104.5
12500	93.9	95.2	96.3	99.1	101.9	104.1	103.9	103.7	102.0
16000	93.6	94.7	95.6	98.5	101.5	103.4	102.8	101.8	99.7
20000	92.2	93.2	94.4	97.3	100.1	101.9	100.7	99.3	96.6
25000	91.2	92.6	93.9	96.5	99.8	100.5	99.2	98.0	94.9
31500	90.2	91.6	93.0	95.5	98.3	99.0	97.5	95.9	92.8
40000	89.5	90.7	92.3	94.7	96.9	97.6	95.7	94.3	90.9
50000	88.8	89.5	91.3	94.0	95.9	96.1	94.5	92.5	89.2
63000	88.0	89.2	90.7	92.9	95.0	94.9	92.9	91.2	88.0
80000	87.6	88.2	89.7	92.1	93.9	93.8	92.1	90.3	87.9
TSPL	107.4	108.4	109.4	111.8	114.1	116.0	118.5	122.3	123.4
SSPL	107.3	108.3	109.3	111.7	114.1	116.0	118.4	122.3	123.3

V_∞ =	99	fps
T_a =	64	°F
RH_a =	10	%
P_a =	14.44	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	107.8	108.6	109.4	111.6	113.8	115.5	117.8	121.5	122.6
SSPL	107.7	108.5	109.3	111.6	113.8	115.5	117.7	121.5	122.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	108.0	108.7	109.4	111.5	113.5	115.1	117.3	121.0	122.0
SSPL	107.9	108.6	109.3	111.4	113.5	115.1	117.2	120.9	121.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
DATA 315 05/20/76 -00 000000 XARF 0 3630 3630

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	73.1	72.0	74.6	76.4	75.4	73.4	75.5	78.6	81.9
125	75.8	77.9	79.8	78.8	76.5	77.0	78.3	81.0	85.1
160	76.9	80.0	80.3	81.1	79.7	79.1	79.7	83.6	88.3
200	78.5	79.5	80.1	82.5	81.0	83.0	85.7	86.5	89.3
250	80.6	82.3	82.3	83.0	85.7	84.9	87.3	91.6	93.1
315	85.1	87.0	85.7	86.4	86.3	86.8	87.8	91.9	97.6
400	88.8	88.1	87.3	87.6	87.2	87.8	93.0	94.8	100.0
500	89.7	88.3	87.0	86.9	88.9	91.5	95.3	99.4	102.4
630	87.8	87.6	88.3	90.0	91.0	93.3	97.3	101.3	105.5
800	94.5	91.4	92.1	93.6	94.1	95.1	99.7	104.4	108.1
1000	92.7	94.8	94.9	96.7	96.6	97.1	101.3	106.5	110.1
1250	94.0	94.1	93.9	97.3	99.3	99.8	103.5	108.7	111.4
1600	94.6	96.2	95.8	98.0	100.2	101.4	105.6	110.3	112.3
2000	97.0	98.2	100.1	100.8	101.7	102.6	107.5	111.7	113.3
2500	97.1	97.2	98.5	101.3	102.0	103.0	107.1	111.7	113.1
3150	97.2	98.2	98.9	100.0	102.3	103.5	106.8	110.8	112.6
4000	97.2	97.8	97.5	100.3	102.5	104.3	106.1	110.0	111.6
5000	97.0	97.8	98.3	100.3	102.8	104.7	106.2	108.5	109.8
6300	96.1	97.1	98.0	100.3	102.5	104.7	105.7	106.8	107.7
8000	95.9	96.6	97.3	100.0	102.9	105.0	105.2	106.1	106.1
10000	95.5	96.4	96.9	99.6	102.2	103.9	104.2	104.7	103.9
12500	94.5	95.6	96.4	98.9	101.4	103.1	102.7	102.5	101.3
16000	94.3	95.1	95.7	98.4	101.0	102.5	101.7	100.6	99.2
20000	92.8	93.6	94.5	97.1	99.6	101.0	99.7	98.4	96.3
25000	91.8	93.0	94.0	96.3	99.3	99.6	98.2	97.1	94.8
31500	90.8	92.0	93.1	95.3	97.8	98.1	96.5	95.1	92.7
40000	90.2	91.1	92.4	94.6	96.4	96.8	94.8	93.5	91.0
50000	89.5	89.9	91.4	93.8	95.4	95.3	93.6	91.8	89.2
63000	88.6	89.6	90.8	92.7	94.4	94.0	91.9	90.5	87.9
80000	88.2	88.6	89.8	91.9	93.3	92.9	91.2	89.5	87.4
TSPL	108.0	108.8	109.5	111.6	113.6	115.0	116.9	120.2	121.9
SSPL	107.9	108.7	109.4	111.6	113.6	115.0	116.9	120.1	121.8

V_∞ =	99	fps
T_a =	64	°F
RH_a =	10	%
P_a =	14.44	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3630 CONDITION 3630

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.81	0.0		1.81	0.0	THRUST,IDL	LB	78.2	0.0	N	347.7	0.0
TEMP	(R)	1262.0	0.0	(K)	701.1	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.037	0.0	KG/M3	0.593	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1544.0	0.0	M/S	470.6	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.1	72.0	74.6	76.4	75.4	73.4	75.5	78.6	81.9	94.1
.125	75.8	77.9	79.8	78.8	76.5	77.0	78.3	81.0	85.1	97.3
.160	76.9	80.0	80.3	81.1	79.7	79.1	79.7	83.6	88.3	99.5
.200	78.5	79.5	80.1	82.5	81.0	83.0	85.7	86.5	89.3	101.6
.250	80.6	82.3	82.3	83.0	85.7	84.9	87.3	91.6	93.1	104.8
.315	85.1	87.0	85.7	86.4	86.3	86.8	87.8	91.9	97.6	107.1
.400	88.8	88.1	87.3	87.6	87.2	87.8	93.0	94.8	100.0	109.6
.500	89.7	88.3	87.0	86.9	88.9	91.5	95.3	99.4	102.4	112.2
.630	87.8	87.6	88.3	90.0	91.0	93.3	97.3	101.3	105.5	114.3
.800	94.5	91.4	92.1	93.6	94.1	95.1	99.7	104.4	106.1	117.2
1.00	92.7	94.8	94.9	96.7	96.6	97.1	101.3	106.5	110.1	119.3
1.25	94.0	94.1	93.9	97.3	99.3	99.8	103.5	108.7	111.4	121.0
1.60	94.6	96.2	95.8	98.0	100.2	101.4	105.6	110.3	112.3	122.4
2.00	97.0	98.2	100.1	100.8	101.7	102.6	107.5	111.7	113.3	124.0
2.50	97.1	97.2	98.5	101.3	102.0	103.0	107.1	111.7	113.1	123.9
3.15	97.2	98.2	98.9	100.0	102.3	103.5	106.8	110.8	112.6	123.4
4.00	97.2	97.8	97.5	100.3	102.5	104.3	106.1	110.0	111.6	122.9
5.00	97.0	97.8	98.3	100.3	102.8	104.7	106.2	108.5	109.8	122.3
6.30	96.1	97.1	98.0	100.3	102.5	104.7	105.7	106.8	107.7	121.4
8.00	95.9	96.6	97.3	100.0	102.9	105.0	105.2	106.1	106.1	121.0
10.0	95.5	96.4	96.9	99.6	102.2	103.9	104.2	104.7	103.9	120.0
12.5	94.5	95.6	96.4	98.9	101.4	103.1	102.7	102.5	101.3	118.8
16.0	94.3	95.1	95.7	98.4	101.0	102.5	101.7	100.8	99.2	117.9
20.0	92.8	93.6	94.5	97.1	99.6	101.0	99.7	98.4	96.3	116.3
25.0	91.8	93.0	94.0	96.3	99.3	99.6	98.2	97.1	94.8	115.3
31.5	90.8	92.0	93.1	95.3	97.8	98.1	96.5	95.1	92.7	113.8
40.0	90.2	91.1	92.4	94.6	96.4	96.8	94.8	93.5	91.0	112.6
50.0	89.5	89.9	91.4	93.8	95.4	95.3	93.6	91.8	89.2	111.4
63.0	88.6	89.6	90.8	92.7	94.4	94.0	91.9	90.5	87.9	110.4
80.0	88.2	88.6	89.8	91.9	93.3	92.9	91.2	89.5	87.4	109.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	108.0	108.8	109.5	111.6	113.6	115.0	116.9	120.2	121.9	OAPWL = 133.5

V_∞ =	99	fps
T_a =	64	°F
RH_a =	10	%
P_a =	14.44	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR 1
W631 315 05/20/76 -00 000000 XARF 0 3632 3632 1.

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	80.5	69.0	78.1	79.5	74.0	79.0	79.5	75.5	88.6
125	70.0	69.4	77.1	70.3	74.7	77.0	67.1	76.9	88.8
160	76.3	77.5	76.3	71.4	74.3	60.3	68.3	77.8	86.5
200	76.0	77.0	74.9	71.4	72.9	70.5	75.4	77.8	87.3
250	65.9	69.2	76.0	72.0	75.7	73.3	77.9	82.6	88.7
315	73.2	75.2	77.3	74.4	75.7	75.9	78.0	83.6	93.5
400	75.7	75.6	77.4	76.5	77.6	77.8	83.2	85.2	97.2
500	76.1	75.0	76.7	76.6	78.2	80.7	84.5	89.3	91.8
630	77.0	77.2	78.5	79.3	80.7	83.3	87.0	91.0	94.4
800	81.8	79.5	80.5	81.9	83.0	84.2	88.5	93.0	96.2
1000	80.5	82.0	82.6	84.1	84.5	85.5	89.1	94.0	96.4
1250	81.2	82.0	81.8	84.3	86.7	87.5	89.9	94.5	96.1
1600	81.6	82.2	82.8	85.0	87.3	88.3	90.7	94.3	95.1
2000	82.1	83.3	84.7	86.6	88.6	89.1	91.8	93.8	93.8
2500	82.2	82.6	83.5	85.8	87.8	89.2	91.3	92.9	91.2
3150	82.1	82.9	84.1	86.2	88.0	89.5	91.2	91.8	89.1
4000	82.2	82.6	83.4	85.9	88.3	89.6	90.5	91.2	87.2
5000	81.9	82.8	83.5	86.2	88.4	89.6	90.3	89.5	85.7
6300	81.1	82.1	83.2	85.6	87.6	89.1	89.3	87.9	84.2
8000	81.0	81.3	82.4	84.9	87.3	88.8	88.3	87.0	82.3
10000	79.9	80.8	81.5	83.9	86.1	87.2	86.9	85.3	80.2
12500	78.7	79.5	80.6	82.8	84.9	85.8	84.9	82.8	78.3
16000	77.9	78.8	79.5	82.1	84.1	84.6	83.3	81.1	76.2
20000	76.4	77.2	78.0	80.5	82.3	82.8	81.2	78.4	73.1
25000	75.3	76.6	77.4	79.7	81.8	81.5	79.8	77.1	71.4
31500	74.6	75.7	76.4	78.4	80.4	80.1	78.3	75.2	69.6
40000	74.0	74.9	75.9	77.7	79.2	78.9	76.8	73.7	68.4
50000	73.0	73.4	75.0	77.1	78.5	77.7	75.7	72.2	66.6
63000	71.2	72.5	73.8	75.9	77.6	76.7	73.8	70.0	62.5
80000	66.3	70.4	71.3	74.4	76.3	75.0	70.9	72.2	71.0
TSPL	93.7	94.2	95.2	97.1	99.0	100.1	101.5	103.7	105.7
SSPL	93.2	93.8	94.7	96.9	98.9	100.0	101.4	103.5	104.2

V_∞ =	202	fps
T_a =	60	°F
RH_a =	12	%
P_a =	14.19	psia

DECK LD DATE ENG MOD ENG NO SIND C OBS CORR
W631 315 05/20/76 -00 060000 XARF 0 3632 3632

· DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	94.7	94.7	95.4	96.9	98.4	99.1	100.2	102.2	105.0
SSPL	94.1	94.4	94.9	96.7	98.3	99.0	100.1	102.0	103.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	95.1	94.9	95.3	96.5	97.8	98.3	99.2	101.1	103.5
SSPL	94.5	94.5	94.8	96.4	97.7	98.2	99.1	100.9	102.0

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3632 3632

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	81.8	69.7	78.8	78.6	72.8	77.0	77.6	73.4	76.8
125	71.3	70.4	77.0	69.7	73.7	75.5	66.1	66.7	79.1
160	77.6	78.1	75.8	70.7	72.8	58.9	63.6	70.9	79.0
200	77.3	77.6	74.4	70.7	71.7	66.7	72.0	73.7	78.6
250	67.2	70.5	76.1	71.4	74.5	71.4	74.4	77.6	82.5
315	74.5	76.0	77.1	73.8	74.5	74.0	74.9	77.9	84.8
400	77.0	76.3	77.4	75.9	76.4	75.8	79.8	81.0	86.7
500	77.4	75.7	76.8	76.1	77.0	78.6	81.3	84.8	88.1
630	78.3	77.9	78.7	78.8	79.6	81.2	83.8	86.7	90.0
800	83.1	80.0	80.7	81.4	81.8	82.2	85.1	88.5	92.0
1000	81.8	82.8	82.8	83.5	83.3	83.5	85.9	89.4	92.8
1250	82.5	82.6	81.9	83.9	85.6	85.6	86.9	90.1	93.0
1600	83.0	82.9	83.0	84.6	86.2	86.4	87.8	90.4	92.4
2000	83.4	84.1	84.9	86.2	86.9	87.2	89.0	90.6	91.5
2500	83.6	83.3	83.8	85.4	86.7	87.3	88.6	90.0	90.1
3150	83.4	83.6	84.4	85.6	86.9	87.6	88.6	89.3	88.5
4000	83.5	83.3	83.6	85.5	87.1	87.7	88.0	88.8	87.5
5000	83.2	83.5	83.7	85.8	87.2	87.7	88.0	87.7	85.7
6300	82.4	82.9	83.4	85.2	86.5	87.3	87.2	86.3	84.1
8000	82.3	82.0	82.7	84.5	86.2	87.0	86.3	85.4	82.9
10000	81.2	81.5	81.7	83.5	85.0	85.4	84.9	83.9	81.0
12500	80.0	80.3	80.8	82.4	83.7	84.0	83.0	81.5	78.7
16000	79.2	79.5	79.8	81.7	83.0	82.9	81.5	79.8	76.8
20000	77.7	77.9	78.2	80.1	81.1	81.1	79.5	77.4	74.0
25000	76.6	77.3	77.6	79.3	80.6	79.8	78.1	76.1	72.5
31500	75.9	76.4	76.6	78.0	79.2	78.4	76.6	74.4	70.7
40000	75.3	75.7	76.1	77.3	78.1	77.3	75.2	72.8	69.3
50000	74.3	74.2	75.3	76.7	77.3	76.0	74.1	71.5	67.6
63000	72.5	73.3	74.1	75.4	76.4	75.1	72.3	69.6	64.8
80000	67.7	71.3	71.6	74.1	75.1	73.5	69.3	69.0	69.5
TSPL	95.1	94.9	95.4	96.7	97.8	98.2	98.9	100.2	101.7
SSPL	94.5	94.6	94.9	96.5	97.7	98.1	98.8	100.1	101.4

V_∞ =	202	fps
T_a =	60	°F
RH_a =	12	%
P_a =	14.19	psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3632 CONDITION 3632

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.31	0.0		1.31	0.0	THRUST,IDL	LB	33.1	0.0	N	147.3	0.0
TEMP	(R)	1256.0	0.0	(K)	697.8	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.034	0.0	KG/M3	0.547	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1056.0	0.0	M/S	321.9	0.0	W (MODEL)	LB/S	1.0	0.0	KG/S	0.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.8	69.7	78.8	78.6	72.8	77.0	77.6	73.4	76.8	95.5
.125	71.3	70.4	77.0	69.7	73.7	75.5	66.1	68.7	79.1	91.9
.160	77.6	78.1	75.8	70.7	72.8	58.9	63.6	70.9	79.0	92.7
.200	77.3	77.6	74.4	70.7	71.7	68.7	72.0	73.7	78.6	92.6
.250	67.2	70.5	76.1	71.4	74.5	71.4	74.4	77.8	82.5	93.2
.315	74.5	76.0	77.1	73.8	74.5	74.0	74.9	77.9	84.8	94.9
.400	77.0	76.3	77.4	75.9	76.4	75.8	79.8	81.0	86.7	97.0
.500	77.4	75.7	76.8	76.1	77.0	78.6	81.3	84.8	88.1	98.5
.630	78.3	77.9	78.7	78.8	79.6	81.2	83.8	86.7	90.0	100.7
.800	83.1	80.0	80.7	81.4	81.8	82.2	85.1	88.5	92.0	102.6
1.00	81.8	82.8	82.8	83.5	83.3	83.5	85.9	89.4	92.8	103.8
1.25	82.5	82.6	81.9	83.9	85.6	85.6	86.9	90.1	93.0	104.5
1.60	83.0	82.9	83.0	84.6	86.2	86.4	87.8	90.4	92.4	104.9
2.00	83.4	84.1	84.9	86.2	86.9	87.2	89.0	90.6	91.5	105.6
2.50	83.6	83.3	83.8	85.4	86.7	87.3	88.6	90.0	90.1	105.0
3.15	83.4	83.6	84.4	85.8	86.9	87.6	88.6	89.3	88.5	105.0
4.00	83.5	83.3	83.6	85.5	87.1	87.7	88.0	88.8	87.5	104.7
5.00	83.2	83.5	83.7	85.8	87.2	87.7	88.0	87.7	85.7	104.5
6.30	82.4	82.9	83.4	85.2	86.5	87.3	87.2	86.3	84.1	103.8
8.00	82.3	82.0	82.7	84.5	86.2	87.0	86.3	85.4	82.9	103.2
10.0	81.2	81.5	81.7	83.5	85.0	85.4	84.9	83.9	81.0	101.9
12.5	80.0	80.3	80.8	82.4	83.7	84.0	83.0	81.5	78.7	100.5
16.0	79.2	79.5	79.8	81.7	83.0	82.9	81.5	79.8	76.8	99.5
20.0	77.7	77.9	78.2	80.1	81.1	81.1	79.5	77.4	74.0	97.7
25.0	76.6	77.3	77.6	79.3	80.6	79.8	78.1	76.1	72.5	96.8
31.5	75.9	76.4	76.6	78.0	79.2	78.4	76.6	74.4	70.7	95.5
40.0	75.3	75.7	76.1	77.3	78.1	77.3	75.2	72.8	69.3	94.6
50.0	74.3	74.2	75.3	76.7	77.3	76.0	74.1	71.5	67.6	93.6
63.0	72.5	73.3	74.1	75.4	76.4	75.1	72.3	69.6	64.8	92.4
80.0	67.7	71.3	71.6	74.1	75.1	73.5	69.3	69.0	69.5	90.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 116.0
OSPL	95.1	94.9	95.4	96.7	97.8	98.2	98.9	100.2	101.7	

V_∞ =	202	fps
T_a =	60	°F
RH_a =	12	%
P_a =	14.19	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/20/76		-00 000000	XARF	0	3653	3653

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	63.6	61.9	65.5	66.7	66.0	64.5	68.0	72.0	77.2
125	67.4	69.7	72.2	71.6	69.3	70.5	71.6	75.1	80.1
160	67.8	71.3	72.1	72.8	71.8	71.6	73.1	77.6	82.5
200	70.3	71.7	71.7	73.9	73.1	75.2	78.3	79.7	83.4
250	72.3	73.7	74.1	74.2	76.6	76.6	80.1	84.5	85.0
315	75.0	76.8	76.7	77.2	77.9	78.8	80.9	85.3	91.3
400	78.2	79.0	78.4	79.0	79.4	80.5	85.7	88.0	93.3
500	79.7	79.0	78.6	79.0	80.6	83.4	88.0	91.8	93.7
630	78.3	79.0	79.8	81.7	83.0	85.6	89.7	93.9	97.4
800	84.0	81.8	82.6	84.4	85.8	87.3	91.6	96.0	98.7
1000	83.0	84.0	84.5	86.8	87.7	88.5	92.1	97.3	99.7
1250	83.1	83.7	84.0	86.9	89.1	90.3	93.0	98.0	99.6
1600	83.5	84.8	84.8	87.6	89.8	91.0	93.9	97.8	99.0
2000	84.5	85.8	87.2	88.7	90.5	91.9	94.8	97.3	97.8
2500	84.2	84.9	85.8	88.4	90.4	91.8	94.1	96.3	95.2
3150	84.1	85.4	86.5	88.6	90.6	92.2	93.9	94.8	93.5
4000	84.4	85.1	85.7	88.4	90.8	92.3	93.2	94.1	91.4
5000	84.3	85.4	86.0	88.8	91.0	92.3	93.0	92.3	89.7
6300	83.4	84.5	85.7	88.1	90.2	91.7	92.0	90.6	87.9
8000	83.3	83.7	84.9	87.4	89.8	91.4	90.8	89.5	85.9
10000	82.4	83.3	84.0	86.5	88.7	89.7	89.4	87.8	84.0
12500	81.1	82.1	83.1	85.4	87.5	88.5	87.6	85.3	82.5
16000	80.4	81.3	81.9	84.4	86.6	87.4	85.8	83.4	80.8
20000	79.0	79.7	80.5	82.9	84.9	85.5	83.6	80.9	78.7
25000	78.0	79.0	79.9	81.9	84.0	84.0	82.0	79.6	77.9
31500	76.9	77.7	78.8	80.7	82.7	82.6	80.5	77.4	76.1
40000	76.3	76.8	78.0	79.7	81.3	81.2	78.7	75.9	74.5
50000	75.5	75.9	77.2	79.4	80.5	79.9	77.6	74.7	73.2
63000	74.7	75.3	76.7	78.2	79.5	78.8	76.3	73.2	72.5
80000	73.0	73.8	75.0	77.2	78.6	77.7	75.1	71.3	71.5
TSPL	95.7	96.4	97.2	99.5	101.5	102.7	104.4	106.8	107.9
SSPL	95.5	96.2	97.1	99.4	101.4	102.7	104.2	106.7	107.6

V_∞ =	101	fps
T_a =	60	°F
RH_a =	14	%
P_a =	1443	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3633 3633

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	96.1	96.7	97.3	99.4	101.2	102.2	103.7	105.9	107.2
SSPL	95.9	96.5	97.1	99.3	101.1	102.2	103.5	105.8	106.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	96.3	96.8	97.2	99.2	100.9	101.8	103.2	105.4	106.5
SSPL	96.2	96.6	97.1	99.1	100.8	101.8	103.0	105.3	106.2

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/20/76 -00 000000 XARF 0 3633 3633 7

DBTF JET NOISE TEST CONV. NOZ CONF. 1
WITH TABS TAPE 4913 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	64.3	62.3	65.6	66.4	65.4	63.6	66.4	69.5	73.7
125	68.1	70.2	72.3	71.2	68.6	69.6	70.2	72.7	76.7
160	68.5	71.7	72.1	72.5	71.2	70.7	71.6	75.0	79.3
200	71.0	72.1	71.8	73.6	72.6	74.2	76.8	77.8	80.4
250	73.0	74.1	74.1	74.0	76.0	75.6	78.4	82.3	83.8
315	75.7	77.2	76.7	76.9	77.3	77.9	79.3	82.6	87.5
400	78.9	79.3	78.4	78.7	78.8	79.5	84.0	85.9	89.6
500	80.4	79.3	78.6	78.8	80.1	82.3	86.3	89.6	91.8
630	79.0	79.4	79.9	81.5	82.5	84.6	88.0	91.5	94.8
800	84.7	82.1	82.7	84.2	85.3	86.3	89.9	93.7	96.5
1000	83.7	84.4	84.6	86.6	87.1	87.5	90.4	94.8	97.7
1250	83.8	84.1	84.1	86.8	88.6	89.3	91.4	95.6	98.0
1600	84.2	85.2	84.9	87.5	89.3	90.0	92.3	95.7	97.5
2000	85.2	86.2	87.3	88.5	90.0	90.9	93.3	95.5	96.5
2500	84.9	85.3	85.9	88.3	89.9	90.9	92.7	94.7	94.6
3150	84.7	85.8	86.5	88.4	90.0	91.2	92.5	93.4	92.8
4000	85.0	85.4	85.8	88.2	90.3	91.3	91.9	92.8	91.3
5000	84.9	85.8	86.1	88.6	90.5	91.3	91.8	91.3	89.4
6300	84.1	84.9	85.8	87.9	89.7	90.8	90.9	89.8	87.6
8000	84.0	84.1	85.0	87.3	89.3	90.5	89.8	88.7	86.1
10000	83.1	83.7	84.1	86.3	88.2	88.8	88.3	87.1	84.2
12500	81.7	82.4	83.2	85.2	86.9	87.6	86.6	84.6	82.1
16000	81.1	81.7	82.0	84.2	86.1	86.5	84.9	82.7	80.4
20000	79.6	80.1	80.6	82.7	84.3	84.6	82.7	80.2	78.0
25000	78.6	79.3	79.9	81.7	83.4	83.1	81.1	78.8	77.0
31500	77.5	78.1	78.9	80.5	82.1	81.7	79.7	76.7	75.0
40000	77.0	77.2	78.1	79.5	80.7	80.4	77.9	75.2	73.5
50000	76.2	76.3	77.3	79.2	79.9	79.1	76.8	74.0	72.2
63000	75.3	75.6	76.7	77.9	78.9	78.0	75.5	72.5	71.1
80000	73.7	74.2	75.1	77.0	78.0	76.8	74.4	70.6	69.6
TSPL	96.3	96.8	97.3	99.3	100.9	101.8	103.0	104.9	106.2
SSPL	96.2	96.6	97.1	99.2	100.9	101.7	102.8	104.8	106.0

V_∞ =	101	fps
T_a =	60	°F
RH_a =	14	%
P_a =	14.43	psia

STAND XARF RIG ID VT=101 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3633 CONDITION 3633

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
	P.R.		1.31	0.0		1.31	0.0	THRUST,IDL	LB		33.6	0.0	N	149.5	0.0
	TEMP	(R)	1262.0	0.0	(K)	701.1	0.0	THRUST,MEA	LB			0.0	N		0.0
	RHO	LB/FT3	0.034	0.0	KG/M3	0.545	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
	VEL	FPS	1061.0	0.0	M/S	323.4	0.0	W (MODEL)	LB/S		1.0	0.0	KG/S	0.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	64.3	62.3	65.6	66.4	65.4	63.6	66.4	69.5	73.7	84.9
.125	68.1	70.2	72.3	71.2	68.6	69.6	70.2	72.7	76.7	89.5
.160	68.5	71.7	72.1	72.5	71.2	70.7	71.6	75.0	79.3	91.0
.200	71.0	72.1	71.8	73.6	72.6	74.2	76.8	77.8	80.4	93.0
.250	73.0	74.1	74.1	74.0	76.0	75.6	78.4	82.3	83.8	95.7
.315	75.7	77.2	76.7	76.9	77.3	77.9	79.3	82.6	87.5	97.7
.400	78.9	79.3	78.4	78.7	78.8	79.5	84.0	85.9	89.6	100.3
.500	80.4	79.3	78.6	78.8	80.1	82.3	86.3	89.6	91.8	102.6
.630	79.0	79.4	79.9	81.5	82.5	84.6	88.0	91.5	94.8	104.6
.800	84.7	82.1	82.7	84.2	85.3	86.3	89.9	93.7	96.5	106.8
1.00	83.7	84.4	84.6	86.6	87.1	87.5	90.4	94.8	97.7	108.0
1.25	83.8	84.1	84.1	86.8	88.6	89.3	91.4	95.6	96.0	108.7
1.60	84.2	85.2	84.9	87.5	89.3	90.0	92.3	95.7	97.5	109.0
2.00	85.2	86.2	87.3	88.5	90.0	90.9	93.3	95.5	96.5	109.4
2.50	84.9	85.3	85.9	88.3	89.9	90.9	92.7	94.7	94.6	108.7
3.15	84.7	85.8	86.5	88.4	90.0	91.2	92.5	93.4	92.8	108.3
4.00	85.0	85.4	85.8	88.2	90.3	91.3	91.9	92.8	91.3	108.0
5.00	84.9	85.8	86.1	88.6	90.5	91.3	91.6	91.3	89.4	107.8
6.30	84.1	84.9	85.8	87.9	89.7	90.8	90.9	89.8	87.6	106.9
8.00	84.0	84.1	85.0	87.3	89.3	90.5	89.8	88.7	86.1	106.2
10.0	83.1	83.7	84.1	86.3	88.2	88.8	88.3	87.1	84.2	104.9
12.5	81.7	82.4	83.2	85.2	86.9	87.6	86.6	84.6	82.1	103.5
16.0	81.1	81.7	82.0	84.2	86.1	86.5	84.9	82.7	80.4	102.4
20.0	79.6	80.1	80.6	82.7	84.3	84.6	82.7	80.2	78.0	100.6
25.0	78.6	79.3	79.9	81.7	83.4	83.1	81.1	78.8	77.0	99.5
31.5	77.5	78.1	78.9	80.5	82.1	81.7	79.7	76.7	75.0	98.1
40.0	77.0	77.2	78.1	79.5	80.7	80.4	77.9	75.2	73.5	96.9
50.0	76.2	76.3	77.3	79.2	79.9	79.1	76.8	74.0	72.2	96.1
63.0	75.3	75.6	76.7	77.9	78.9	78.0	75.5	72.5	71.1	95.1
80.0	73.7	74.2	75.1	77.0	78.0	76.8	74.4	70.6	69.6	93.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	96.3	96.8	97.3	99.3	100.9	101.8	103.0	104.9	106.2	

OAPWL = 119.5

V_∞ =	101	fps
T_a =	60	°F
RH_a =	14	%
P_a =	14.43	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/21/76		-00 000000	XARF 0	3636 3636

DBTF JET NOISE TEST CONF. 1 2.2M DIA
• NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	82.5	81.8	84.5	86.9	85.7	84.0	85.3	88.8	93.3
125	80.1	82.2	84.6	84.8	85.6	84.5	85.5	88.7	94.4
160	80.9	84.0	84.9	86.5	86.1	86.2	86.3	90.1	97.0
200	82.8	84.9	86.4	88.8	87.0	89.4	92.7	92.8	96.9
250	85.4	87.6	88.6	90.4	92.8	92.4	92.7	97.7	96.9
315	91.2	94.3	93.1	94.0	93.6	93.8	94.0	96.4	107.3
400	95.4	94.2	93.1	93.5	93.3	93.5	97.6	99.6	109.5
500	95.0	94.6	93.5	92.7	95.3	99.0	101.2	105.8	109.5
630	94.3	94.2	94.2	96.0	96.6	99.2	100.8	106.2	113.9
800	99.7	97.1	97.4	98.7	97.9	99.8	103.6	110.3	116.2
1000	97.2	99.6	99.8	101.0	100.7	100.7	103.8	112.0	117.9
1250	98.4	98.7	98.2	100.7	102.3	102.7	106.0	113.9	118.9
1600	97.8	99.3	99.5	101.7	103.9	104.4	108.1	114.8	119.7
2000	100.0	101.3	103.7	104.7	104.8	106.0	109.3	115.7	120.3
2500	102.4	102.0	101.8	104.8	105.8	107.0	109.2	115.9	119.5
3150	110.1	108.2	105.9	107.2	108.3	108.2	110.9	115.2	119.2
4000	118.2	114.9	110.6	110.2	109.0	108.7	110.2	114.5	118.1
5000	118.6	119.4	115.9	112.1	109.6	109.5	110.7	113.1	116.9
6300	114.3	115.8	117.3	116.9	112.5	110.8	111.0	112.3	115.2
8000	115.1	115.2	113.5	116.6	116.2	115.9	112.1	112.2	112.9
10000	114.7	114.6	112.5	112.9	116.2	116.3	113.4	111.9	111.7
12500	113.6	113.4	112.7	112.7	113.0	118.5	114.4	111.3	110.5
16000	113.1	113.1	112.3	112.6	112.7	116.6	114.7	111.1	109.1
20000	111.9	112.1	111.6	111.7	112.1	113.0	113.2	109.9	107.2
25000	111.4	111.8	111.4	111.5	112.2	112.5	111.2	109.3	106.4
31500	110.4	111.1	110.9	111.3	111.6	111.7	110.1	107.9	105.1
40000	110.0	110.7	110.9	111.2	111.4	111.4	109.5	107.0	104.6
50000	109.6	110.0	110.5	111.7	111.4	111.2	109.3	106.8	104.0
63000	109.0	109.8	110.5	111.4	111.7	111.5	109.3	107.3	103.9
80000	109.0	109.6	110.4	111.4	111.8	111.5	109.8	107.3	104.5
TSPL	125.6	125.4	124.4	124.7	124.5	125.4	124.1	125.7	129.2
SSPL	125.6	125.4	124.4	124.7	124.5	125.4	124.1	125.7	129.1

V_∞ =	104	fps
T_a =	66	°F
RH_a =	39	%
P_a =	1451	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3636 3636

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	126.0	125.6	124.5	124.5	124.2	124.8	123.4	124.8	128.4
SSPL	126.0	125.6	124.5	124.5	124.2	124.8	123.4	124.8	128.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	126.2	125.7	124.5	124.4	123.9	124.5	122.9	124.3	127.8
SSPL	126.2	125.7	124.5	124.4	123.9	124.5	122.9	124.3	127.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3636 3636

: DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	83.2	82.2	84.6	86.6	85.0	83.1	83.8	86.4	90.1
125	80.8	82.6	84.7	84.5	83.0	83.6	84.1	86.2	90.6
160	81.6	84.4	85.0	86.2	85.5	85.3	84.9	87.4	92.7
200	83.5	85.3	86.5	86.5	86.4	86.4	91.3	91.1	93.5
250	86.1	88.0	88.7	90.2	92.2	91.5	91.2	95.3	97.5
315	91.9	94.7	93.1	93.7	93.0	92.9	92.6	95.4	102.1
400	96.1	94.5	93.1	93.2	92.7	92.5	96.0	97.1	103.6
500	95.7	94.9	93.5	92.5	94.9	98.0	99.6	103.3	106.8
630	95.0	94.5	94.3	95.8	96.1	98.2	99.2	103.2	109.4
800	100.4	97.4	97.5	98.4	97.3	98.8	101.8	107.2	112.7
1000	97.9	100.0	99.9	100.8	100.1	99.8	102.0	108.6	114.6
1250	99.1	99.0	98.3	100.5	101.8	101.7	104.2	110.7	116.0
1600	98.5	99.7	99.6	101.6	103.4	103.4	106.3	111.8	116.7
2000	100.7	101.8	103.8	104.5	104.3	105.0	107.6	112.8	117.4
2500	103.1	102.4	101.9	104.7	105.3	106.1	107.5	113.0	117.1
3150	110.7	108.4	105.8	106.9	107.7	107.2	109.2	112.7	116.3
4000	118.8	115.0	110.5	109.8	108.3	107.8	108.7	112.0	115.4
5000	119.2	119.6	115.7	111.6	109.1	108.6	109.3	111.0	113.9
6300	115.0	116.2	117.3	116.5	111.8	110.0	109.8	110.5	112.6
8000	115.8	113.5	113.6	116.4	115.6	113.1	111.1	110.8	111.2
10000	115.4	114.9	112.5	112.7	115.7	115.5	112.6	110.8	110.2
12500	114.2	113.7	112.7	112.4	112.5	117.5	113.7	110.5	109.1
16000	113.8	113.4	112.3	112.3	112.2	115.7	115.9	110.6	108.3
20000	112.5	112.4	111.6	111.4	111.5	112.1	112.2	109.4	106.7
25000	112.0	112.1	111.4	111.2	111.6	111.6	110.2	106.5	104.1
31500	111.0	111.4	110.9	111.0	111.0	110.8	109.2	107.2	104.8
40000	110.7	111.1	111.0	111.0	110.8	110.6	108.7	106.4	104.1
50000	110.3	110.4	110.6	111.5	110.8	110.4	106.4	106.2	103.7
63000	109.6	110.1	110.5	111.1	111.1	110.6	108.4	106.6	103.8
80000	109.7	110.0	110.5	111.2	111.2	110.7	108.9	106.7	104.2
TSPL	126.2	125.7	124.4	124.4	123.9	124.5	123.0	123.6	126.4
SSPL	126.2	125.7	124.4	124.4	123.9	124.5	123.0	123.5	126.4

V_∞ =	104	fps
T_a =	66	°F
RH_a =	39	%
P_a =	14.51	psia

STAND XARF RIG ID VT=104 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3636 CONDITION 3636

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			3.18	0.0		3.18	0.0	THRUST,IDL	LB		160.5	0.0	N	713.9	0.0
TEMP	(R)		711.0	0.0	(K)	395.0	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.078	0.0	KG/M3	1.244	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1552.0	0.0	M/S	473.0	0.0	W (MODEL)	LB/S		3.3	0.0	KG/S	1.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	83.2	82.2	84.6	86.6	85.0	83.1	83.8	86.4	90.1	103.3
.125	80.8	82.6	84.7	84.5	83.0	83.6	84.1	86.2	90.6	102.8
.160	81.6	84.4	85.0	86.2	85.5	85.3	84.9	87.4	92.7	104.3
.200	83.5	85.3	86.5	88.5	86.4	88.4	91.3	91.1	93.5	106.9
.250	86.1	88.0	88.7	90.2	92.2	91.5	91.2	95.3	97.5	109.9
.315	91.9	94.7	93.1	93.7	93.0	92.9	92.6	95.4	102.1	112.8
.400	96.1	94.5	93.1	93.2	92.7	92.5	96.0	97.1	103.6	113.8
.500	95.7	94.9	93.5	92.5	94.9	98.0	99.6	103.3	106.8	116.9
.630	95.0	94.5	94.3	95.8	96.1	98.2	99.2	103.2	109.4	117.9
.800	100.4	97.4	97.5	98.4	97.5	98.8	101.8	107.2	112.7	121.0
1.00	97.9	100.0	99.9	100.8	100.1	99.8	102.0	108.6	114.6	122.6
1.25	99.1	99.0	98.3	100.5	101.8	101.7	104.2	110.7	116.0	124.0
1.60	98.5	99.7	99.6	101.6	103.4	103.4	106.3	111.8	116.7	125.1
2.00	100.7	101.8	103.8	104.5	104.3	105.0	107.6	112.8	117.4	126.3
2.50	103.1	102.4	101.9	104.7	105.3	106.1	107.5	113.0	117.1	126.4
3.15	110.7	108.4	105.8	106.9	107.7	107.2	109.2	112.7	116.3	127.7
4.00	118.8	115.0	110.5	109.8	108.3	107.8	108.7	112.0	115.4	130.9
5.00	119.2	119.6	115.7	111.6	109.1	108.6	109.3	111.0	113.9	133.2
6.30	115.0	116.2	117.3	116.5	111.8	110.0	109.8	110.5	112.6	132.8
8.00	115.8	113.5	113.6	116.4	115.6	113.1	111.1	110.8	111.2	132.4
10.0	115.4	114.9	112.5	112.7	115.7	115.5	112.6	110.8	110.2	132.3
12.5	114.2	113.7	112.7	112.4	112.5	117.5	113.7	110.5	109.1	132.0
16.0	113.8	113.4	112.3	112.3	112.2	115.7	113.9	110.6	108.3	131.4
20.0	112.5	112.4	111.6	111.4	111.5	112.1	112.2	109.4	106.7	129.9
25.0	112.0	112.1	111.4	111.2	111.6	111.6	110.2	108.5	106.1	129.4
31.5	111.0	111.4	110.9	111.0	111.0	110.8	109.2	107.2	104.8	128.8
40.0	110.7	111.1	111.0	111.0	110.8	110.6	108.7	106.4	104.1	128.6
50.0	110.3	110.4	110.6	111.5	110.8	110.4	108.4	106.2	103.7	128.4
63.0	109.6	110.1	110.5	111.1	111.1	110.6	108.4	106.6	103.8	128.3
80.0	109.7	110.0	110.5	111.2	111.2	110.7	108.9	106.7	104.2	128.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	126.2	125.7	124.4	124.4	123.9	124.5	123.0	123.6	126.4	OAPWL = 142.9

V_∞ =	104	fps
T_a =	66	°F
RH_a =	39	%
P_a =	14.51	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00	000000	XARF	0	3637	3637

DBTF JET NOISE TEST CONF. 1 2.2" DIA
NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	83.2	82.1	87.4	89.3	87.0	84.9	86.9	90.3	94.5
125	80.7	82.8	86.7	87.0	84.9	85.2	86.8	90.1	94.6
160	78.4	82.2	83.9	85.5	85.6	85.5	86.3	89.9	96.2
200	80.1	82.5	85.1	87.8	85.8	88.4	91.6	91.9	95.6
250	84.2	87.0	87.6	89.6	91.6	90.6	91.1	96.0	97.2
315	90.2	92.8	91.7	92.0	91.6	92.2	91.8	97.3	106.7
400	92.5	91.4	90.4	90.7	91.4	92.0	95.9	97.8	107.7
500	90.2	90.0	90.4	90.9	93.2	96.4	98.0	103.5	108.2
630	92.7	92.2	91.9	93.2	94.1	96.7	98.7	104.1	111.3
800	96.7	93.9	94.3	96.4	95.4	97.3	100.8	107.9	114.1
1000	94.0	96.8	97.4	98.1	97.4	98.5	101.7	109.5	114.9
1250	96.0	97.5	96.5	98.6	99.9	100.9	104.6	111.5	116.0
1600	97.0	97.5	98.8	100.7	101.9	102.9	105.6	112.3	116.8
2000	100.6	101.4	104.0	104.7	104.7	104.9	107.8	113.5	117.4
2500	102.5	101.8	101.5	103.3	104.4	104.9	107.4	113.3	116.5
3150	112.4	109.6	106.4	107.6	107.1	107.7	109.4	112.9	116.6
4000	119.2	117.4	112.7	109.2	108.0	107.7	108.7	112.3	114.4
5000	117.2	118.7	117.0	113.4	109.5	108.3	109.1	111.1	113.1
6300	113.5	114.3	116.0	117.4	113.3	110.6	110.0	110.5	111.7
8000	115.6	112.9	112.1	115.5	116.4	113.9	111.5	110.9	109.7
10000	113.7	114.0	112.4	112.0	115.0	116.2	113.3	111.1	108.4
12500	113.1	112.8	112.0	112.6	112.2	117.6	114.6	110.8	107.6
16000	112.7	112.7	111.8	112.1	112.3	115.2	115.0	110.7	106.4
20000	111.6	111.9	111.2	111.4	111.6	112.3	112.9	109.4	104.5
25000	110.8	111.4	110.8	111.1	111.6	111.7	110.5	108.3	103.8
31500	110.0	110.6	110.5	111.0	111.0	111.2	109.6	106.7	102.6
40000	109.5	110.1	110.3	110.9	110.8	110.5	108.6	105.7	101.8
50000	108.7	109.3	109.9	111.0	110.6	110.4	108.3	105.1	101.2
63000	108.1	109.0	109.8	110.6	110.9	110.6	108.2	105.6	101.2
80000	107.9	108.7	109.5	110.6	110.8	110.6	108.6	105.8	101.9
TSPL	125.3	125.1	124.1	124.4	124.6	124.6	123.4	123.8	126.2
SSPL	125.3	125.1	124.1	124.4	124.0	124.6	123.4	123.8	126.1

V_∞ =	201	fps
T_a =	58	°F
RH_a =	46	%
P_a =	14.27	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	126.2	125.7	124.3	124.2	123.4	123.6	122.1	122.3	125.5
SSPL	126.2	125.7	124.3	124.2	123.4	123.6	122.1	122.3	125.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	126.6	125.9	124.2	123.8	122.8	122.8	121.1	121.3	124.0
SSPL	126.6	125.9	124.2	123.8	122.8	122.8	121.1	121.2	123.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00.000000 XARF 0 3637 3637

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	84.5	83.0	87.9	88.6	85.7	83.1	84.0	86.1	89.5
125	82.0	83.8	87.0	86.3	83.7	83.4	84.0	85.9	89.5
160	79.7	83.2	84.1	85.0	84.4	83.7	83.6	85.4	89.8
200	81.5	83.5	85.5	87.2	84.6	86.4	88.8	89.1	90.7
250	85.5	87.8	87.8	89.1	90.4	88.9	88.4	91.4	94.4
315	91.5	93.5	91.6	91.4	90.4	90.4	89.2	91.6	96.3
400	93.8	92.0	90.3	90.1	90.2	90.1	92.8	93.8	98.6
500	91.5	90.7	90.4	90.4	92.1	94.4	95.1	98.4	103.0
630	94.0	92.8	92.0	92.7	93.0	94.7	95.7	98.8	104.4
800	98.0	94.4	94.5	95.8	94.2	95.3	97.4	102.1	108.1
1000	95.3	97.6	97.5	97.5	96.2	96.6	98.3	103.4	109.5
1250	97.3	98.2	96.6	98.2	98.8	99.0	101.2	105.9	111.1
1600	98.3	98.3	99.1	100.3	100.8	101.0	102.4	106.8	111.9
2000	101.9	102.3	104.3	104.2	103.5	103.1	104.6	108.4	112.8
2500	103.9	102.4	101.7	102.9	103.3	103.1	104.3	106.2	112.4
3150	113.7	109.9	106.2	107.0	105.9	105.8	106.6	108.7	111.7
4000	120.5	117.7	112.1	108.4	106.7	105.9	106.0	108.1	110.8
5000	118.5	119.3	116.6	112.4	108.2	106.6	106.5	107.6	109.4
6300	114.8	115.1	116.3	116.6	111.9	109.0	107.8	107.6	108.5
8000	116.4	113.4	112.4	115.1	115.2	112.4	109.8	108.6	108.0
10000	115.0	114.6	112.2	111.5	113.9	114.5	111.8	109.6	107.6
12500	114.4	113.3	112.0	112.2	111.1	115.6	113.3	109.9	106.9
16000	114.0	113.3	111.8	111.5	111.2	113.3	113.2	110.3	106.5
20000	112.9	112.5	111.2	110.8	110.4	110.5	110.8	108.8	105.0
25000	112.1	112.0	110.7	110.5	110.4	109.9	108.6	107.0	104.2
31500	111.3	111.3	110.5	110.4	109.8	109.5	107.9	105.7	102.6
40000	110.8	110.8	110.4	110.3	109.6	108.9	107.0	104.7	101.8
50000	110.0	110.0	110.0	110.4	109.4	108.7	106.7	104.2	101.1
63000	109.4	109.7	109.9	110.0	109.6	108.9	106.6	104.4	101.4
80000	109.2	109.4	109.6	110.1	109.6	108.9	107.0	104.7	101.8
TSPL	126.6	125.7	124.1	123.7	122.8	122.8	121.5	120.7	122.2
SSPL	126.6	125.7	124.1	123.7	122.8	122.8	121.5	120.7	122.1

V_∞ =	201	fps
T_a =	58	°F
RH_a =	46	%
P_a =	14.27	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3637 CONDITION 3637

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			3.21	0.0		3.21	0.0	THRUST,IDL	LB	159.8	0.0	N	711.0	0.0
TEMP	(R)		709.0	0.0	(K)	393.9	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.078	0.0	KG/M3	1.251	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1555.0	0.0	M/S	474.0	0.0	W (MODEL)	LB/S	3.3	0.0	KG/S	1.5	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	84.5	83.0	87.9	88.6	85.7	83.1	84.0	86.1	89.5	104.5
.125	82.0	83.8	87.0	86.3	83.7	83.4	84.0	85.9	89.5	103.6
.160	79.7	83.2	84.1	85.0	84.4	83.7	83.6	85.4	89.8	102.8
.200	81.5	83.5	85.5	87.2	84.6	86.4	88.8	89.1	90.7	105.0
.250	85.5	87.8	87.8	89.1	90.4	88.9	88.4	91.4	94.4	107.7
.315	91.5	93.5	91.6	91.4	90.4	90.4	89.2	91.6	98.3	110.3
.400	93.8	92.0	90.3	90.1	90.2	90.1	92.8	93.8	98.6	110.5
.500	91.5	90.7	90.4	90.4	92.1	94.4	95.1	98.4	103.0	112.9
.630	94.0	92.8	92.0	92.7	93.0	94.7	95.7	98.8	104.4	114.1
.800	98.0	94.4	94.5	95.8	94.2	95.3	97.4	102.1	108.1	116.9
1.00	95.3	97.6	97.5	97.5	96.2	96.6	98.3	103.4	109.5	118.3
1.25	97.3	98.2	96.6	98.2	98.8	99.0	101.2	105.9	111.1	120.1
1.60	98.3	98.3	99.1	100.3	100.8	101.0	102.4	106.8	111.9	121.2
2.00	101.9	102.3	104.3	104.2	103.5	103.1	104.6	108.4	112.8	123.6
2.50	103.9	102.4	101.7	102.9	103.3	103.1	104.3	108.2	112.4	123.1
3.15	113.7	109.9	106.2	107.0	105.9	105.8	106.6	108.7	111.7	126.8
4.00	120.5	117.7	112.1	108.4	106.7	105.9	106.0	108.1	110.8	131.7
5.00	118.5	119.3	116.6	112.4	108.2	106.6	106.5	107.6	109.4	132.9
6.30	114.8	115.1	116.3	116.6	111.9	109.0	107.8	107.6	108.5	132.1
8.00	116.4	113.4	112.4	115.1	115.2	112.4	109.8	108.6	108.0	131.7
10.0	115.0	114.6	112.2	111.5	113.9	114.5	111.8	109.6	107.6	131.4
12.5	114.4	113.3	112.0	112.2	111.1	115.6	113.3	109.9	106.9	131.2
16.0	114.0	113.3	111.8	111.5	111.2	113.3	113.2	110.3	106.5	130.6
20.0	112.9	112.5	111.2	110.8	110.4	110.5	110.8	108.8	105.0	129.3
25.0	112.1	112.0	110.7	110.5	110.4	109.9	108.6	107.0	104.2	128.6
31.5	111.3	111.3	110.5	110.4	109.8	109.5	107.9	105.7	102.6	128.1
40.0	110.8	110.8	110.4	110.3	109.6	108.9	107.0	104.7	101.8	127.7
50.0	110.0	110.0	110.0	110.4	109.4	108.7	106.7	104.2	101.1	127.3
63.0	109.4	109.7	109.9	110.0	109.6	108.9	106.6	104.4	101.4	127.2
80.0	109.2	109.4	109.6	110.1	109.6	108.9	107.0	104.7	101.8	127.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	126.6	125.7	124.1	123.7	122.8	122.6	121.5	120.7	122.2	

V_∞ =	201	fps
T_a =	58	°F
RH_a =	46	%
P_a =	14.27	psia

OAPWL = 142.1

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3638 3638

DBTF JET NOISE TEST CONF. 1 2.2" DIA
NOZ. TAPE 4914 10.2049.

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.9	69.0	82.8	85.1	83.1	81.0	82.7	87.6	89.9
125	70.7	73.9	81.9	82.5	80.3	80.2	82.2	86.5	89.9
160	76.1	72.9	79.2	81.3	80.9	80.5	81.6	86.2	91.0
200	70.6	75.2	80.5	83.3	81.2	83.2	87.0	87.9	90.9
250	78.4	81.1	83.0	84.3	86.5	85.8	86.6	91.6	91.9
315	84.5	87.2	86.6	87.0	86.6	86.9	87.7	92.7	101.3
400	86.7	86.1	85.7	86.3	86.8	87.4	91.4	93.7	102.3
500	85.2	84.9	85.4	86.2	87.9	91.0	93.3	98.8	102.9
630	87.0	86.9	86.7	88.5	89.4	91.7	94.2	99.8	106.1
800	91.7	89.0	89.8	91.6	90.9	92.4	96.6	103.2	108.5
1000	89.3	91.9	92.5	93.7	93.1	93.9	97.3	104.6	109.2
1250	90.9	92.0	91.6	94.1	95.4	96.0	99.7	106.1	109.9
1600	91.8	92.4	93.5	95.8	97.5	98.2	101.1	106.7	110.5
2000	92.5	93.9	96.3	98.2	97.7	99.2	102.4	107.1	110.3
2500	93.4	94.0	94.4	97.4	98.7	99.8	102.5	106.9	108.9
3150	94.9	96.5	96.6	97.7	98.8	99.9	102.8	106.1	107.4
4000	100.9	99.4	98.2	99.0	100.4	101.7	103.4	106.0	105.8
5000	109.2	105.4	102.2	102.7	102.8	103.2	104.5	105.6	105.1
6300	112.4	111.0	106.8	104.4	102.9	102.8	103.8	104.2	103.7
8000	110.9	110.9	110.5	108.2	105.0	104.2	103.9	104.1	101.3
10000	108.1	107.9	108.9	110.0	107.9	106.1	104.6	103.6	100.0
12500	108.3	107.2	105.5	107.5	109.2	108.7	105.7	102.8	99.2
16000	107.6	107.2	106.1	105.8	107.1	109.9	106.8	102.6	98.3
20000	106.6	106.2	105.1	105.7	105.2	107.8	106.6	101.9	96.7
25000	105.8	105.6	104.8	104.9	105.4	104.9	104.8	101.4	96.0
31500	104.8	104.9	104.4	104.7	104.6	104.3	102.4	99.4	94.3
40000	104.3	104.3	104.2	104.4	104.2	103.4	101.2	97.7	93.3
50000	103.6	103.7	104.0	104.8	104.2	103.3	100.8	97.2	92.7
63000	103.0	103.5	104.2	104.6	104.6	103.7	100.8	97.6	92.6
80000	102.9	103.3	104.0	104.8	104.7	103.8	101.2	97.9	93.5
TSPL	119.0	118.3	117.4	117.5	117.2	117.4	116.5	117.4	119.3
SSPL	119.0	118.3	117.4	117.5	117.2	117.4	116.5	117.4	119.1

V_∞ =	199	fps
T_a =	56	°F
RH_a =	64	%
P_a =	14.27	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3638 3638

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	119.9	118.9	117.6	117.3	116.6	116.4	115.2	116.0	118.6
SSPL	119.9	118.9	117.6	117.3	116.6	116.4	115.2	115.9	118.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	120.3	119.0	117.5	116.9	116.0	115.6	114.2	114.9	117.1
SSPL	120.3	119.0	117.5	116.9	116.0	115.6	114.2	114.8	116.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XAKF 0 3638 3638

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ• TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	74.2	70.3	83.9	84.5	81.8	79.3	79.8	82.9	86.3
125	72.0	75.2	82.5	81.8	79.1	78.4	79.3	82.0	85.5
160	77.4	73.8	79.8	80.8	79.6	78.7	78.8	81.4	85.7
200	71.9	76.4	81.1	82.7	80.0	81.2	84.0	84.9	86.4
250	79.7	82.0	83.2	83.8	85.3	84.0	83.8	87.0	89.7
315	85.8	87.9	86.5	86.4	85.4	85.1	85.0	87.4	93.4
400	88.0	86.7	85.7	85.7	85.6	85.4	88.2	89.6	94.1
500	86.5	85.5	85.5	85.7	86.8	89.0	90.3	93.7	98.1
630	88.3	87.5	86.8	88.0	88.3	89.7	91.1	94.5	99.9
800	93.0	89.6	90.0	91.0	89.7	90.4	93.1	97.7	103.0
1000	90.6	92.7	92.7	93.1	91.9	92.0	93.9	98.8	104.3
1250	92.2	92.7	91.8	93.7	94.3	94.1	96.3	100.8	105.5
1600	93.1	93.1	93.8	95.4	96.4	96.3	98.0	101.7	106.0
2000	93.8	94.8	96.7	97.7	96.5	97.3	99.3	102.5	106.1
2500	94.8	94.7	94.7	97.0	97.6	97.9	99.5	102.6	105.5
3150	96.2	97.2	96.6	97.1	97.6	97.9	99.8	102.2	104.3
4000	102.2	99.9	98.2	98.5	99.2	99.8	100.7	102.5	103.7
5000	110.5	105.6	102.0	102.1	101.6	101.4	101.9	102.7	103.1
6300	113.7	111.3	106.3	103.6	101.7	101.0	101.4	101.6	101.6
8000	112.3	111.6	110.3	107.4	103.7	102.5	101.7	101.8	100.8
10000	109.4	108.6	109.1	109.3	106.6	104.5	102.7	101.7	99.9
12500	109.6	107.7	105.5	107.0	108.0	107.0	104.2	101.6	98.9
16000	108.9	107.8	106.0	105.2	106.0	108.1	105.5	102.0	98.4
20000	107.9	106.7	105.1	105.1	104.0	105.9	105.0	101.7	97.3
25000	107.1	106.2	104.7	104.3	104.2	103.1	102.8	100.7	96.9
31500	106.1	105.5	104.4	104.1	103.4	102.6	100.7	98.5	95.0
40000	105.6	105.0	104.2	103.8	103.0	101.8	99.7	96.9	93.5
50000	104.9	104.4	104.1	104.2	103.0	101.7	99.3	96.5	93.0
63000	104.3	104.2	104.2	104.0	103.3	102.0	99.3	96.6	93.2
80000	104.2	104.0	104.1	104.2	103.5	102.2	99.7	97.0	93.7
TSPL	120.3	118.9	117.4	116.8	116.0	115.6	114.5	114.2	115.6
SSPL	120.3	118.9	117.3	116.8	115.9	115.6	114.5	114.2	115.5

V_∞ =	199	fps
T_a =	56	°F
RH_a =	64	%
P_a =	14.27	psia

20036F OBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3638 CONDITION 3638

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB	114.0	0.0	N	507.1	0.0
TEMP	(R)		703.0	0.0	(K)	390.6	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.074	0.0	KG/M3	1.179	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1401.0	0.0	M/S	427.0	0.0	W (MODEL)	LB/S	2.6	0.0	KG/S	1.2	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.2	70.3	83.9	84.5	81.8	79.3	79.8	82.9	86.3	100.2
.125	72.0	75.2	82.5	81.8	79.1	78.4	79.3	82.0	85.5	98.7
.160	77.4	73.8	79.8	80.8	79.6	78.7	78.8	81.4	85.7	98.1
.200	71.9	76.4	81.1	82.7	80.0	81.2	84.0	84.9	86.4	100.2
.250	79.7	82.0	83.2	83.8	85.3	84.0	83.8	87.0	89.7	102.8
.315	85.8	87.9	86.5	86.4	85.4	85.1	85.0	87.4	93.4	105.3
.400	88.0	86.7	85.7	85.7	85.6	85.4	88.2	89.6	94.1	105.8
.500	86.5	85.5	85.5	85.7	86.8	89.0	90.3	93.7	98.1	108.0
.630	88.3	87.5	86.8	88.0	88.3	89.7	91.1	94.5	99.9	109.4
.800	93.0	89.6	90.0	91.0	89.7	90.4	93.1	97.7	103.0	112.1
1.00	90.6	92.7	92.7	93.1	91.9	92.0	93.9	98.8	104.3	113.5
1.25	92.2	92.7	91.8	93.7	94.3	94.1	96.3	100.8	105.5	114.9
1.60	93.1	93.1	93.8	95.4	96.4	96.3	98.0	101.7	106.0	116.1
2.00	93.8	94.8	96.7	97.7	96.5	97.3	99.3	102.5	106.1	117.1
2.50	94.8	94.7	94.7	97.0	97.6	97.9	99.5	102.6	105.5	117.0
3.15	96.2	97.2	96.6	97.1	97.6	97.9	99.8	102.2	104.3	117.1
4.00	102.2	99.9	98.2	98.5	99.2	99.8	100.7	102.5	103.7	118.6
5.00	110.5	105.6	102.0	102.1	101.6	101.4	101.9	102.7	103.1	122.3
6.30	113.7	111.3	106.3	103.6	101.7	101.0	101.4	101.6	101.6	125.4
8.00	112.3	111.6	110.3	107.4	103.7	102.5	101.7	101.8	100.8	126.4
10.0	109.4	108.6	109.1	109.3	106.6	104.5	102.7	101.7	99.9	125.6
12.5	109.6	107.7	105.5	107.0	108.0	107.0	104.2	101.6	98.9	125.0
16.0	108.9	107.8	106.0	105.2	106.0	108.1	105.5	102.0	98.4	124.7
20.0	107.9	106.7	105.1	105.1	104.0	105.9	105.0	101.7	97.3	123.6
25.0	107.1	106.2	104.7	104.3	104.2	103.1	102.8	100.7	96.9	122.6
31.5	106.1	105.5	104.4	104.1	103.4	102.6	100.7	98.5	95.0	121.9
40.0	105.6	105.0	104.2	103.8	103.0	101.8	99.7	96.9	93.5	121.4
50.0	104.9	104.4	104.1	104.2	103.0	101.7	99.3	96.5	93.0	121.2
63.0	104.3	104.2	104.2	104.0	103.3	102.0	99.3	96.6	93.2	121.2
80.0	104.2	104.0	104.1	104.2	103.5	102.2	99.7	97.0	93.7	121.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.3	118.9	117.4	116.9	116.0	115.0	114.5	114.2	115.6	OAPWL = 135.3

V_∞ =	199	fps
T_a =	56	°F
RH_a =	64	%
P_a =	14.27	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/21/76		-00 000000	XAKF 0	3639 3639

DBTF JET NOISE TEST CONF. I 2.2" DIA
• NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.1	77.2	80.6	82.6	81.2	79.5	80.7	84.3	89.5
125	75.7	77.8	80.3	80.3	79.3	80.3	81.6	85.0	90.8
160	77.1	80.0	81.3	83.0	82.4	82.0	82.7	86.9	93.6
200	78.9	80.8	82.4	85.4	83.7	85.1	88.9	89.9	93.6
250	81.0	83.6	84.7	85.9	86.2	88.3	88.7	93.8	95.3
315	86.4	89.3	88.7	89.5	89.1	89.2	90.1	94.6	103.1
400	90.5	89.7	89.2	89.4	88.6	89.6	93.8	96.3	105.2
500	90.7	90.1	89.1	88.7	90.6	94.2	97.4	101.7	105.1
630	89.4	89.6	90.1	91.7	92.6	94.6	97.2	102.8	109.6
800	95.2	92.5	93.2	94.6	94.2	95.6	100.1	106.3	111.3
1000	92.8	94.8	95.3	97.2	97.5	97.3	100.2	106.6	113.1
1250	93.7	93.8	94.0	96.8	96.5	99.1	102.5	109.7	113.9
1600	93.6	95.4	95.2	97.5	99.9	100.9	104.7	110.3	114.4
2000	94.9	96.5	99.0	99.9	100.5	101.9	105.5	110.9	114.3
2500	95.8	96.1	96.3	99.9	101.2	102.7	105.3	110.7	113.3
3150	97.0	96.8	98.0	99.2	101.1	102.3	105.8	109.4	112.4
4000	101.6	99.3	98.9	100.5	102.2	103.8	105.7	108.9	111.3
5000	108.6	104.7	101.8	102.9	103.7	104.9	106.4	107.6	109.4
6300	112.4	110.7	106.7	104.8	104.0	104.7	106.1	106.7	107.8
8000	111.8	111.3	110.6	108.0	105.5	105.7	105.9	106.3	105.8
10000	109.0	109.0	109.7	110.1	107.9	106.8	106.0	105.4	104.2
12500	108.8	107.8	106.5	106.5	109.4	109.1	106.4	104.4	102.8
16000	108.2	107.7	106.7	106.5	106.1	110.4	107.0	103.7	101.1
20000	107.1	106.7	105.8	106.0	106.0	108.8	106.6	102.7	99.2
25000	106.4	106.2	105.5	105.5	106.1	106.2	105.3	102.4	98.4
31500	105.1	105.3	105.0	105.2	105.2	105.1	103.2	100.6	97.0
40000	104.7	104.8	104.8	105.0	104.9	104.3	102.1	99.2	96.0
50000	104.1	104.2	104.6	105.5	104.9	104.2	101.7	98.6	95.0
63000	103.7	104.4	104.8	105.4	105.4	104.6	101.8	99.0	95.1
80000	103.8	104.1	104.8	105.7	105.6	104.6	102.3	99.2	95.8
TSPL	119.5	118.8	118.0	118.1	118.0	118.5	118.1	120.3	123.3
SSPL	119.5	118.7	118.0	118.0	118.0	118.5	118.1	120.3	123.1

V_∞ =	101	fps
T_a =	58	°F
RH_a =	66	%
P_a =	14.51	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/21/76		-00 000000	XARF 0	3639 3639

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	119.9	119.0	118.0	117.9	117.7	118.0	117.4	119.5	122.5
SSPL	119.9	119.0	118.0	117.9	117.6	118.0	117.4	119.4	122.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	120.2	119.1	118.0	117.8	117.4	117.6	116.9	118.9	121.9
SSPL	120.1	119.1	118.0	117.8	117.4	117.6	116.9	118.9	121.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3639 3639

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	78.8	77.6	80.7	82.3	80.5	78.6	79.3	81.8	86.0
125	76.4	78.3	80.4	80.0	78.7	79.4	80.1	82.5	87.0
160	77.8	80.4	81.4	82.7	81.8	81.1	81.2	84.1	89.4
200	79.6	81.2	82.5	85.1	83.1	84.1	87.4	88.1	90.5
250	81.7	84.0	84.8	85.7	87.7	87.4	87.2	91.3	93.7
315	87.1	89.7	88.7	89.2	88.5	88.3	88.6	91.7	98.1
400	91.2	90.0	89.2	89.1	88.0	88.6	92.2	93.8	99.8
500	91.4	90.4	89.1	88.5	90.1	93.2	95.8	99.3	102.5
630	90.1	90.0	90.2	91.5	92.1	93.6	95.5	99.8	105.6
800	95.9	92.8	93.3	94.3	93.6	94.6	98.2	103.4	108.2
1000	93.5	95.2	95.4	97.0	96.9	96.4	98.4	104.8	110.1
1250	94.4	94.2	94.1	96.6	98.0	98.1	100.7	106.7	111.3
1600	94.3	95.8	95.3	97.4	99.4	99.9	103.0	107.6	111.7
2000	95.6	97.0	99.1	99.7	100.0	100.9	103.8	108.3	111.9
2500	96.5	96.5	96.5	99.8	100.7	101.8	103.7	108.2	111.3
3150	97.6	97.1	98.0	99.0	100.5	101.3	104.1	107.1	109.9
4000	102.2	99.5	98.9	100.3	101.6	102.8	104.2	106.7	109.1
5000	109.2	104.8	101.8	102.6	103.1	103.9	105.6	106.1	107.4
6300	113.1	110.9	106.6	104.5	103.4	104.8	104.8	105.2	105.9
8000	112.5	111.6	110.6	107.6	104.9	104.8	104.7	105.0	104.7
10000	109.7	109.4	109.7	109.8	107.2	106.0	104.9	104.3	103.3
12500	109.4	108.0	106.5	108.3	108.8	106.2	105.5	103.5	101.9
16000	108.9	108.0	106.7	106.3	107.6	109.5	106.3	103.2	100.6
20000	107.7	107.0	105.8	105.7	105.4	107.9	105.8	102.4	99.0
25000	107.0	106.5	105.5	105.2	105.5	105.3	104.3	101.9	98.5
31500	105.7	105.6	105.0	104.9	104.6	104.2	102.3	100.0	97.0
40000	105.4	105.2	104.8	104.7	104.3	103.5	101.3	98.7	95.8
50000	104.8	104.6	104.7	105.2	104.3	103.4	100.9	98.1	95.0
63000	104.3	104.7	104.8	105.1	104.7	103.7	101.0	98.4	95.2
80000	104.5	104.5	104.9	105.4	105.0	103.8	101.5	98.7	95.7
TSPL	120.2	119.0	118.0	117.8	117.4	117.6	116.9	118.2	120.8
SPL	120.1	119.0	118.0	117.8	117.4	117.6	116.9	118.1	120.7

V_∞ =	101	fps
T_a =	58	°F
RH_a =	66	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3639 CONDITION 3639

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		2.52	0.0		2.52	0.0	THRUST,IDL	LB	120.1	0.0	N	534.1	0.0
TEMP	(R)	714.0	0.0	(K)	396.7	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.072	0.0	KG/M3	1.161	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1411.6	0.0	M/S	430.1	0.0	W (MODEL)	LB/S	2.7	0.0	KG/S	1.2	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	78.8	77.6	80.7	82.3	80.5	78.6	79.3	81.8	86.0	99.0
.125	76.4	78.3	80.4	80.0	78.7	79.4	80.1	82.5	87.0	98.7
.160	77.8	80.4	81.4	82.7	81.8	81.1	81.2	84.1	89.4	100.7
.200	79.6	81.2	82.5	85.1	83.1	84.1	87.4	88.1	90.5	103.4
.250	81.7	84.0	84.8	85.7	87.7	87.4	87.2	91.3	93.7	105.8
.315	87.1	89.7	88.7	89.2	88.5	88.3	88.6	91.7	98.1	108.5
.400	91.2	90.0	89.2	89.1	88.0	86.6	92.2	93.8	99.8	109.8
.500	91.4	90.4	89.1	88.5	90.1	93.2	95.8	99.3	102.5	112.7
.630	90.1	90.0	90.2	91.5	92.1	93.6	95.5	99.8	105.6	114.0
.800	95.9	92.8	93.3	94.3	93.6	94.6	98.2	103.4	108.2	116.9
1.00	93.5	95.2	95.4	97.0	96.9	96.4	98.4	104.8	110.1	118.5
1.25	94.4	94.2	94.1	96.6	98.0	98.1	100.7	106.7	111.3	119.8
1.60	94.3	95.8	95.3	97.4	99.4	99.9	103.0	107.6	111.7	120.8
2.00	95.6	97.0	99.1	99.7	100.0	100.9	103.8	108.3	111.9	121.6
2.50	96.5	96.5	96.5	99.8	100.7	101.8	103.7	108.2	111.3	121.4
3.15	97.6	97.1	98.0	99.0	100.5	101.3	104.1	107.1	109.9	120.8
4.00	102.2	99.5	98.9	100.3	101.6	102.8	104.2	106.7	109.1	121.3
5.00	109.2	104.8	101.8	102.6	103.1	103.9	105.0	106.1	107.4	123.1
6.30	113.1	110.9	106.6	104.5	103.4	103.8	104.8	105.2	105.9	125.8
8.00	112.5	111.6	110.6	107.6	104.9	104.8	104.7	105.0	104.7	126.9
10.0	109.7	109.4	109.7	109.8	107.2	106.0	104.9	104.3	103.3	126.4
12.5	109.4	108.0	106.5	108.3	108.8	108.2	105.5	103.5	101.9	125.8
16.0	108.9	108.0	106.7	106.3	107.6	109.5	106.3	103.2	100.6	125.6
20.0	107.7	107.0	105.8	105.7	105.4	107.9	105.8	102.4	99.0	124.4
25.0	107.0	106.5	105.5	105.2	105.5	105.3	104.3	101.9	96.5	123.5
31.5	105.7	105.6	105.0	104.9	104.6	104.2	102.3	100.0	97.0	122.6
40.0	105.4	105.2	104.8	104.7	104.3	103.5	101.3	98.7	95.8	122.2
50.0	104.8	104.6	104.7	105.2	104.3	103.4	100.9	98.1	95.0	122.0
63.0	104.3	104.7	104.8	105.1	104.7	103.7	101.0	98.4	95.2	122.1
80.0	104.5	104.5	104.9	105.4	105.0	103.8	101.5	98.7	95.7	122.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.2	119.0	118.0	117.8	117.4	117.6	116.9	118.2	120.8	OAPWL = 136.6

V_∞ =	101	fps
T_a =	58	°F
RH_a =	66	%
P_a =	14.51	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XAKF	0	3642	3642

: DBTF JET NOISE TEST CONF. 1 2.2" DIA.
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.9	72.3	75.3	76.9	76.1	74.9	76.5	79.5	84.1
125	71.0	73.2	75.7	75.6	74.5	76.0	77.3	80.2	85.4
160	72.3	75.7	77.1	78.8	78.4	77.8	78.3	82.5	88.7
200	74.4	76.7	77.9	80.8	79.2	80.4	84.3	85.0	88.6
250	76.5	79.1	80.0	80.9	83.5	83.8	84.2	89.2	90.5
315	81.2	84.1	83.7	84.2	84.3	84.5	86.1	90.0	98.2
400	85.0	84.6	84.3	84.8	84.4	85.3	89.5	92.1	100.2
500	85.2	85.0	84.1	84.1	85.8	89.1	92.7	96.9	100.0
630	84.1	84.5	85.0	86.9	88.0	90.0	92.9	98.1	104.6
800	90.2	87.4	88.4	90.1	89.7	91.4	95.4	101.1	106.1
1000	87.7	89.5	90.4	92.3	92.7	92.9	95.5	102.6	107.6
1250	88.3	88.6	89.1	91.6	93.5	94.3	97.2	103.9	108.2
1600	88.3	90.1	90.0	92.6	94.8	96.0	99.1	104.0	108.4
2000	89.6	91.1	93.2	94.3	95.3	96.9	100.3	104.2	107.6
2500	89.9	90.7	91.3	94.1	95.7	97.4	100.0	103.8	105.7
3150	90.1	91.1	92.3	93.9	95.6	97.3	100.4	103.0	103.6
4000	90.3	91.0	91.5	94.0	95.9	98.0	100.2	102.6	101.4
5000	90.9	91.9	92.2	94.7	96.4	98.5	100.5	101.6	99.9
6300	90.7	91.4	92.3	94.4	96.2	98.2	100.0	100.4	98.3
8000	92.1	91.7	92.4	94.4	96.3	98.6	99.6	99.8	96.6
10000	95.6	94.3	93.6	94.8	96.2	98.0	99.2	98.8	95.5
12500	98.8	97.1	94.6	94.7	95.9	97.4	98.1	97.2	94.0
16000	97.3	97.8	96.4	95.7	95.9	97.1	97.4	95.7	92.6
20000	94.5	94.8	95.1	96.1	96.2	96.5	96.2	94.3	90.5
25000	94.3	94.2	93.5	94.8	96.8	96.6	95.4	93.8	89.5
31500	92.6	93.2	93.0	93.8	95.2	96.2	94.7	92.5	88.3
40000	91.9	92.4	92.5	93.4	94.3	94.8	93.7	91.2	87.3
50000	90.7	91.2	91.9	93.3	93.6	94.0	92.7	90.1	86.3
63000	89.6	90.5	91.3	92.3	93.2	93.4	91.8	89.6	85.7
80000	89.0	89.8	90.6	92.0	92.7	92.7	91.3	89.0	85.9
TSPL	106.1	106.1	106.0	107.3	108.5	109.8	111.4	113.9	116.6
SSPL	106.0	106.0	105.9	107.2	108.4	109.8	111.3	113.9	116.4

V_∞ =	101	fps
T_a =	60	°F
RH_a =	45	%
P_a =	14.51	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XAAF 0 3642 3642

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	106.5	106.3	106.0	107.1	108.2	109.3	110.7	113.1	115.9
SSPL	106.4	106.2	105.9	107.1	108.1	109.2	110.6	113.0	115.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	106.7	106.4	106.0	107.0	107.9	108.9	110.2	112.6	115.2
SSPL	106.7	106.4	105.9	106.9	107.8	108.9	110.1	112.5	115.0

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3642 3642

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	73.6	72.7	75.4	76.6	75.4	74.0	75.0	77.2	80.8
125	71.7	73.7	75.8	75.3	73.9	75.0	75.9	77.9	81.6
160	73.0	76.2	77.2	78.5	77.7	76.9	76.9	79.8	84.8
200	75.1	77.1	78.0	80.5	78.5	79.4	82.7	83.2	85.6
250	77.2	79.5	80.1	80.7	83.0	82.9	82.7	86.8	89.0
315	81.9	84.5	83.7	83.9	83.7	83.5	84.6	87.2	93.3
400	85.7	84.9	84.3	84.5	83.8	84.3	87.9	89.6	95.2
500	85.9	85.3	84.1	83.9	85.3	88.1	91.0	94.5	97.6
630	84.8	84.9	85.1	86.7	87.5	89.0	91.2	95.2	100.7
800	90.9	87.7	88.5	89.9	89.1	90.4	93.6	96.3	102.9
1000	88.4	89.9	90.5	92.1	92.1	92.0	93.8	99.5	104.6
1250	89.0	89.0	89.2	91.6	93.0	93.3	95.5	100.9	105.5
1600	89.0	90.5	90.1	92.5	94.3	95.6	97.4	101.4	105.4
2000	90.3	91.6	93.3	94.1	94.8	95.9	98.7	101.9	105.0
2500	90.6	91.1	91.4	94.0	95.2	96.5	98.5	101.6	103.8
3150	90.7	91.4	92.3	93.7	95.2	96.3	98.8	101.1	102.1
4000	90.9	91.3	91.6	93.8	95.4	97.0	98.7	100.9	100.8
5000	91.5	92.2	92.3	94.5	95.9	97.5	99.1	100.2	99.4
6300	91.4	91.8	92.4	94.2	95.7	97.2	98.7	99.2	97.9
8000	92.8	92.1	92.5	94.3	95.8	97.7	98.4	98.7	96.8
10000	96.3	94.6	93.6	94.6	95.7	97.0	98.0	97.8	95.6
12500	99.4	97.3	94.5	94.4	95.3	96.4	96.9	96.3	94.0
16000	98.0	98.1	96.4	95.4	95.3	96.2	96.3	95.0	92.5
20000	95.1	95.1	95.1	95.8	95.6	95.6	95.1	93.6	90.7
25000	94.9	94.5	93.5	94.6	96.2	95.7	94.4	93.1	89.9
31500	93.2	93.5	93.0	93.6	94.6	95.3	93.8	91.7	88.5
40000	92.6	92.8	92.6	93.2	93.8	94.0	92.8	90.7	87.5
50000	91.4	91.6	92.0	93.1	93.0	93.1	91.8	89.6	86.4
63000	90.2	90.8	91.3	92.0	92.6	92.5	90.8	89.0	85.9
80000	89.6	90.2	90.7	91.8	92.1	91.8	90.4	88.3	85.7
TSPL	106.7	106.4	106.0	107.1	106.0	106.9	110.0	111.9	114.1
SSPL	106.7	106.3	105.9	107.0	107.9	108.8	109.9	111.8	114.0

V_∞ =	101	fps
T_a =	60	°F
RH_a =	45	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG 1D VT=101 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3642 CONDITION 3642

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			2.01	0.0		2.01	0.0	THRUST,IDL	LB		84.5	0.0	N	375.8	0.0
TEMP	(R)		715.0	0.0	(K)	397.2	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.068	0.0	KG/M3	1.089	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		1248.0	0.0	M/S	380.4	0.0	W (MODEL)	LB/S		2.2	0.0	KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.6	72.7	75.4	76.6	75.4	74.0	75.0	77.2	80.8	93.9
.125	71.7	73.7	75.8	75.3	73.9	75.0	75.9	77.9	81.8	94.1
.160	73.0	76.2	77.2	78.5	77.7	76.9	76.9	79.8	84.8	96.4
.200	75.1	77.1	78.0	80.5	78.5	79.4	82.7	83.2	85.6	98.7
.250	77.2	79.5	80.1	80.7	83.0	82.9	82.7	86.8	89.0	101.2
.315	81.9	84.5	83.7	83.9	83.7	83.5	84.6	87.2	93.3	103.6
.400	85.7	84.9	84.3	84.5	83.8	84.3	87.9	89.6	95.2	105.3
.500	85.9	85.3	84.1	83.9	85.3	88.1	91.0	94.5	97.6	107.8
.630	84.8	84.9	85.1	86.7	87.5	89.0	91.2	95.2	100.7	109.3
.800	90.9	87.7	88.5	89.9	89.1	90.4	93.6	98.3	102.9	111.9
1.00	88.4	89.9	90.5	92.1	92.1	92.0	93.8	99.5	104.6	113.4
1.25	89.0	89.0	89.2	91.6	93.0	93.3	95.5	100.9	105.5	114.3
1.60	89.0	90.5	90.1	92.5	94.3	95.0	97.4	101.4	105.4	114.9
2.00	90.3	91.6	93.3	94.1	94.8	95.9	98.7	101.9	105.0	115.6
2.50	90.6	91.1	91.4	94.0	95.2	96.5	98.5	101.6	103.8	115.2
3.15	90.7	91.4	92.3	93.7	95.2	96.3	98.8	101.1	102.1	114.8
4.00	90.9	91.3	91.6	93.8	95.4	97.0	98.7	100.9	100.8	114.7
5.00	91.5	92.2	92.3	94.5	95.9	97.5	99.1	100.2	99.4	114.8
6.30	91.4	91.8	92.4	94.2	95.7	97.2	98.7	99.2	97.9	114.2
8.00	92.8	92.1	92.5	94.3	95.8	97.7	96.4	98.7	96.8	114.2
10.0	96.3	94.6	93.6	94.6	95.7	97.0	98.0	97.8	95.6	114.3
12.5	99.4	97.3	94.5	94.4	95.3	96.4	96.9	96.3	94.0	114.5
16.0	98.0	98.1	96.4	95.4	95.3	96.2	96.3	95.0	92.5	114.6
20.0	95.1	95.1	95.1	95.8	95.6	95.6	95.1	93.6	90.7	113.4
25.0	94.9	94.5	93.5	94.6	96.2	95.7	94.4	93.1	89.9	112.9
31.5	93.2	93.5	93.0	93.6	94.6	95.3	93.8	91.7	88.5	112.0
40.0	92.6	92.8	92.6	93.2	93.8	94.0	92.8	90.7	87.5	111.2
50.0	91.4	91.6	92.0	93.1	93.0	93.1	91.8	89.6	86.4	110.4
63.0	90.2	90.8	91.3	92.0	92.6	92.5	90.8	89.0	85.9	109.6
80.0	89.6	90.2	90.7	91.8	92.1	91.8	90.4	88.3	85.7	109.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	106.7	106.4	106.0	107.1	108.0	108.9	110.0	111.9	114.1	

V_∞ =	101	fps
T_a =	60	°F
RH_a =	45	%
P_a =	14.51	psia

OAPWL = 127.1

DECK LD DATE ENG MOD ENG NU STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3643 3643

: DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	80.0	79.0	78.1	79.2	77.6	75.0	77.7	84.7	82.3
125	76.9	77.6	77.4	77.5	75.2	74.7	78.0	83.4	78.8
160	74.6	76.8	75.7	76.9	76.2	76.0	76.8	83.3	85.2
200	75.6	76.9	76.0	79.1	77.4	78.6	82.3	84.2	83.4
250	71.8	74.7	78.4	79.4	81.8	81.4	82.1	87.6	84.9
315	78.9	81.4	81.2	81.6	81.6	81.9	83.0	88.2	92.5
400	81.4	80.9	81.1	81.6	82.1	82.8	87.0	89.6	97.0
500	80.3	80.2	81.1	81.6	83.0	86.1	88.9	94.3	98.0
630	81.9	82.2	82.3	83.9	85.1	87.1	89.9	95.3	101.1
800	86.9	84.3	85.1	86.9	86.7	88.1	92.2	98.1	103.2
1000	84.6	87.0	87.6	89.1	88.9	89.5	92.8	99.4	103.6
1250	85.9	87.0	86.7	89.3	90.8	91.7	94.7	100.6	104.0
1600	86.7	87.5	88.5	90.7	92.3	93.3	96.0	100.7	104.2
2000	87.2	88.9	90.9	92.6	92.8	94.3	97.3	101.0	103.3
2500	87.8	88.7	89.1	91.7	93.3	94.9	97.3	100.7	101.4
3150	88.0	88.9	90.2	91.9	93.3	95.0	97.6	100.1	99.5
4000	88.1	89.0	89.5	91.6	93.7	95.6	97.6	99.7	97.7
5000	88.5	89.6	89.9	92.3	94.0	96.0	98.0	98.8	96.5
6300	88.6	89.4	90.2	92.3	94.3	95.9	97.8	97.8	95.0
8000	90.6	89.9	90.6	92.6	94.5	96.5	97.4	97.5	93.7
10000	92.0	93.1	92.1	93.0	94.3	96.0	96.9	96.5	92.7
12500	98.1	96.5	93.6	93.2	93.9	95.4	95.8	94.9	91.2
16000	96.1	96.8	95.8	94.8	94.5	95.1	95.2	93.4	89.7
20000	93.0	93.4	94.0	95.1	94.9	94.8	94.0	91.9	87.8
25000	92.9	92.7	92.0	93.3	95.4	94.8	93.4	91.2	86.9
31500	91.1	91.7	91.6	92.1	93.6	94.6	93.0	90.0	85.9
40000	90.1	90.6	91.0	91.8	92.7	93.0	91.9	89.0	85.0
50000	89.0	89.4	90.1	91.5	91.8	92.1	90.6	88.1	84.2
63000	87.9	88.8	89.6	90.6	91.4	91.6	89.7	87.7	83.3
80000	87.5	88.3	89.1	90.3	91.1	91.2	89.6	87.2	83.9
TSPL	104.7	104.6	104.4	105.5	106.5	107.6	108.9	111.0	112.8
SSPL	104.6	104.5	104.3	105.4	106.4	107.6	108.8	110.9	112.6

V_∞ =	199	fps
T_a =	55	°F
RH_a =	61	%
P_a =	14.27	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3643 3643

F DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	105.6	105.1	104.5	105.3	105.9	106.6	107.6	109.6	112.1
SSPL	105.5	105.1	104.5	105.2	105.9	106.6	107.5	109.5	111.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	106.0	105.3	104.4	104.9	105.3	105.8	106.5	108.5	110.6
SSPL	105.9	105.2	104.4	104.8	105.3	105.7	106.5	108.4	110.4

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3643 3643

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	81.3	79.5	78.1	78.5	76.3	73.3	74.4	79.7	82.2
125	78.2	78.3	77.4	76.8	73.9	72.8	74.7	79.2	80.0
160	75.9	77.5	75.8	76.3	74.9	74.2	73.9	77.9	82.0
200	76.9	77.6	76.2	78.6	76.2	76.6	79.2	81.2	81.7
250	73.1	75.7	78.7	79.0	80.6	79.6	79.3	83.1	84.8
315	80.2	82.1	81.2	81.0	80.4	80.1	80.2	83.2	87.6
400	82.7	81.5	81.1	81.0	80.9	80.6	83.8	85.5	89.7
500	81.6	80.9	81.2	81.1	81.9	84.0	85.8	89.3	93.5
630	83.2	82.9	82.5	83.4	83.9	85.1	86.8	90.1	95.2
800	86.3	84.8	85.3	86.3	85.5	86.1	88.8	92.9	97.8
1000	85.9	87.8	87.8	88.5	87.7	87.6	89.5	93.9	98.9
1250	87.3	87.7	86.9	88.9	89.7	89.8	91.5	95.5	99.6
1600	88.0	88.2	88.8	90.3	91.2	91.4	93.0	96.1	99.8
2000	88.5	89.8	91.2	92.1	91.7	92.4	94.3	96.9	99.6
2500	89.1	89.4	89.4	91.3	92.2	93.0	94.4	96.9	98.8
3150	89.4	89.7	90.4	91.4	92.1	93.0	94.7	96.7	97.6
4000	89.4	89.7	89.7	91.2	92.6	93.6	94.8	96.6	96.8
5000	89.8	90.3	90.1	91.9	92.9	94.1	95.4	96.2	95.7
6300	89.9	90.1	90.4	91.9	93.2	94.0	95.3	95.6	94.4
8000	91.9	90.6	90.8	92.2	93.4	94.6	95.1	95.4	93.9
10000	96.3	93.6	92.1	92.5	93.2	94.1	94.6	94.5	92.8
12500	99.4	96.9	93.3	92.6	92.7	93.5	93.6	93.1	91.1
16000	97.4	97.4	95.6	94.1	93.3	93.3	93.1	92.0	89.6
20000	94.3	94.1	94.1	94.5	93.7	93.1	92.1	90.6	87.9
25000	94.2	93.3	92.0	92.8	94.2	93.1	91.6	89.9	87.1
31500	92.4	92.4	91.6	91.6	92.4	92.8	91.3	89.0	85.9
40000	91.4	91.3	91.1	91.3	91.6	91.3	90.1	88.0	85.0
50000	90.3	90.1	90.3	91.0	90.6	90.4	88.9	86.9	84.1
63000	89.2	89.6	89.8	90.1	90.3	89.9	88.0	86.3	83.7
80000	88.8	89.0	89.2	89.7	89.9	89.5	87.9	85.9	83.4
TSPL	106.0	105.2	104.4	104.9	105.4	105.7	106.3	107.5	109.2
SSPL	105.9	105.1	104.3	104.9	105.3	105.7	106.2	107.4	109.1

V_∞ =	199	fps
T_a =	55	°F
RH_a =	61	%
P_a =	14.27	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3643 CONDITION 3643

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.02	0.0		2.02	0.0	THRUST,IDL	LB	79.5	0.0	N	353.4	0.0
TEMP	(R)		705.0	0.0	(K)	391.7	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.069	0.0	KG/M3	1.106	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1242.0	0.0	M/S	378.6	0.0	W (MODEL)	LB/S	2.1	0.0	KG/S	0.9	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.3	79.5	78.1	78.5	76.3	73.3	74.4	79.7	82.2	96.6
.125	78.2	78.3	77.4	76.8	73.9	72.8	74.7	79.2	80.0	95.2
.160	75.9	77.9	75.8	76.3	74.9	74.2	73.9	77.9	82.0	94.8
.200	76.9	77.6	76.2	78.6	76.2	76.6	79.2	81.2	81.7	96.5
.250	73.1	75.7	78.7	79.0	80.6	79.6	79.3	83.1	84.8	98.1
.315	80.2	82.1	81.2	81.0	80.4	80.1	80.2	83.2	87.6	100.0
.400	82.7	81.5	81.1	81.0	80.9	80.8	83.8	85.5	89.7	101.2
.500	81.6	80.9	81.2	81.1	81.9	84.0	85.8	89.3	93.5	103.4
.630	83.2	82.9	82.5	83.4	83.9	85.1	86.8	90.1	95.2	104.8
.800	88.3	84.8	85.3	86.3	85.5	86.1	88.8	92.9	97.8	107.3
1.00	85.9	87.8	87.8	88.5	87.7	87.6	89.5	93.9	98.9	108.6
1.25	87.3	87.7	86.9	88.9	89.7	89.8	91.5	95.5	99.8	109.8
1.60	88.0	88.2	88.8	90.3	91.2	91.4	93.0	96.1	99.8	110.7
2.00	88.5	89.8	91.2	92.1	91.7	92.4	94.3	96.9	99.6	111.6
2.50	89.1	89.4	89.4	91.3	92.2	93.0	94.4	96.9	98.8	111.4
3.15	89.4	89.7	90.4	91.4	92.1	93.0	94.7	96.7	97.6	111.3
4.00	89.4	89.7	89.7	91.2	92.6	93.6	94.8	96.6	96.8	111.3
5.00	89.8	90.3	90.1	91.9	92.9	94.1	95.4	96.2	95.7	111.5
6.30	89.9	90.1	90.4	91.9	93.2	94.0	95.3	95.6	94.4	111.3
8.00	91.9	90.6	90.8	92.2	93.4	94.6	95.1	95.4	93.9	111.5
10.0	96.3	93.6	92.1	92.5	93.2	94.1	94.6	94.5	92.8	112.0
12.5	99.4	96.9	93.3	92.6	92.7	93.5	93.6	93.1	91.1	112.9
16.0	97.4	97.4	95.6	94.1	93.3	93.3	93.1	92.0	89.6	113.1
20.0	94.3	94.1	94.1	94.5	93.7	93.1	92.1	90.6	87.9	111.7
25.0	94.2	93.3	92.0	92.8	94.2	93.1	91.6	89.9	87.1	111.0
31.5	92.4	92.4	91.6	91.6	92.4	92.8	91.3	89.0	85.9	110.0
40.0	91.4	91.3	91.1	91.3	91.6	91.3	90.1	88.0	85.0	109.1
50.0	90.3	90.1	90.3	91.0	90.6	90.4	88.9	86.9	84.1	108.2
63.0	89.2	89.6	89.8	90.1	90.3	89.9	88.0	86.3	83.7	107.6
80.0	88.8	89.0	89.2	89.7	89.9	89.5	87.9	85.9	83.4	107.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	106.0	105.2	104.4	104.9	105.4	105.7	106.3	107.5	109.2	OAPWL = 124.1

V_∞ =	199	fps
T_a =	55	°F
RH_a =	61	%
P_a =	14.27	psia

A1-128

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/21/76		-00 000000	XARF 0	3644 3644

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.1	78.3	76.4	77.5	72.3	70.9	75.3	81.5	89.9
125	74.7	76.8	74.9	74.7	70.6	73.2	74.8	79.7	90.0
160	72.5	75.6	73.7	74.6	72.6	73.1	74.2	79.7	82.0
200	73.4	75.9	73.7	76.5	73.8	75.7	79.6	80.8	78.8
250	74.0	65.3	75.8	76.9	78.9	78.8	79.7	84.6	75.0
315	75.1	78.2	79.1	79.3	79.0	79.5	80.8	86.0	94.9
400	78.1	78.2	78.6	79.7	79.4	80.4	84.7	87.4	95.3
500	77.4	77.0	78.6	79.6	80.6	83.3	86.6	91.6	95.2
630	78.9	79.4	80.2	81.5	82.5	84.6	87.5	92.4	98.3
800	84.1	81.7	82.8	84.6	84.5	85.8	89.7	95.3	100.2
1000	81.8	84.1	85.0	86.7	86.4	87.3	90.2	96.3	100.4
1250	83.1	84.1	84.2	86.8	88.3	89.2	91.9	97.0	100.4
1600	83.7	84.4	85.5	87.8	89.5	90.5	93.0	97.1	100.2
2000	84.2	85.8	87.8	89.5	90.0	91.6	94.5	97.3	99.2
2500	84.9	85.6	86.2	89.0	90.5	92.0	94.3	97.2	97.3
3150	85.0	85.9	87.2	89.2	90.6	92.2	94.7	96.6	95.7
4000	85.2	86.0	86.6	89.0	91.0	92.8	94.5	96.4	94.0
5000	85.6	86.6	87.0	89.6	91.3	93.1	94.8	95.6	92.8
6300	85.3	86.2	87.2	89.5	91.1	92.8	94.4	94.3	91.3
8000	85.9	85.9	86.9	89.3	91.3	93.2	93.8	93.7	89.6
10000	85.4	86.1	86.9	88.8	90.7	92.2	93.2	92.6	88.1
12500	84.9	85.6	86.3	88.7	90.3	91.7	92.3	90.9	86.8
16000	84.8	85.4	86.0	88.2	89.8	91.1	91.4	89.4	85.4
20000	83.8	84.5	85.2	87.1	88.9	89.9	90.0	87.8	83.5
25000	83.3	84.4	84.9	86.7	88.8	89.2	89.0	87.0	82.6
31500	82.7	83.5	84.2	86.0	87.7	88.6	87.7	85.6	81.4
40000	82.4	83.2	84.1	85.5	86.9	87.7	86.7	84.3	80.6
50000	82.0	82.7	83.8	85.7	86.5	87.1	86.1	83.7	80.0
63000	82.0	83.0	84.1	85.4	86.7	87.0	85.7	83.7	80.0
80000	82.5	83.0	84.2	85.6	86.5	86.7	85.5	83.3	80.4
TSPL	97.6	98.4	99.2	101.3	102.7	104.0	105.5	107.6	109.5
SSPL	97.4	98.2	99.1	101.1	102.6	104.0	105.5	107.5	109.0

V_∞ = 199 fps
T_a = 55°F
RH_a = 71%
P_a = 14.27 psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/21/76		-00 000000	XARF 0	3644 3644

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	98.6	98.9	99.4	101.1	102.1	103.1	104.2	106.1	108.8
SSPL	98.4	98.7	99.2	100.9	102.0	103.0	104.2	106.0	108.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	99.0	99.1	99.3	100.7	101.5	102.2	103.2	105.0	107.3
SSPL	98.8	98.9	99.1	100.6	101.4	102.2	103.1	104.9	106.8

ORIGINAL MICROPHONE ANGLES

70.Ø 80.Ø 90.Ø 100.Ø 110.Ø 120.Ø 130.Ø 140.Ø 150.Ø

DECK LD DATE ENG MOD ENG NO STND C OBS CORR.
H631 315 05/21/76 -00 000006 XARF 0 3644 3644

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES).

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.4	78.8	76.4	76.7	71.0	69.1	71.8	75.8	82.3
125	76.0	77.4	74.7	73.8	69.4	71.2	71.9	74.2	81.0
160	73.8	76.3	73.6	73.9	71.4	71.3	71.4	74.8	78.5
200	74.7	76.5	73.8	75.8	72.6	73.7	76.6	78.2	77.8
250	75.3	66.2	76.5	76.4	77.7	77.0	76.9	81.0	79.5
315	76.4	79.1	79.2	78.7	77.8	77.6	78.0	80.6	86.8
400	79.4	78.9	78.7	79.2	78.2	78.4	81.5	83.2	87.7
500	78.8	77.8	78.8	79.1	79.4	81.3	83.4	86.8	90.7
630	80.2	80.1	80.4	81.0	81.4	82.6	84.4	87.4	92.2
800	85.4	82.3	83.1	84.0	83.3	83.8	86.3	90.2	94.9
1000	83.1	84.9	85.2	86.1	85.2	85.4	87.0	91.0	95.7
1250	84.4	84.8	84.4	86.4	87.2	87.3	88.8	92.2	96.1
1600	85.0	85.2	85.8	87.4	88.4	88.6	90.0	92.7	96.0
2000	85.6	86.6	88.1	89.0	88.9	89.7	91.6	93.6	95.7
2500	86.2	86.3	86.5	88.6	89.4	90.1	91.5	93.6	95.1
3150	86.3	86.7	87.5	88.7	89.4	90.2	91.8	93.5	94.0
4000	86.6	86.7	86.8	88.6	89.8	90.9	91.8	93.4	93.3
5000	86.9	87.3	87.2	89.2	90.2	91.2	92.2	93.1	92.3
6300	86.6	86.9	87.5	89.1	90.0	90.9	91.9	92.2	90.9
8000	87.2	86.6	87.2	88.9	90.2	91.4	91.5	91.7	90.0
10000	86.7	86.8	87.1	88.4	89.6	90.3	90.9	90.8	88.6
12500	86.3	86.3	86.5	88.2	89.1	89.8	90.1	89.3	87.0
16000	86.1	86.1	86.2	87.8	88.7	89.3	89.3	88.1	85.5
20000	85.1	85.2	85.4	86.7	87.7	88.1	87.9	86.6	83.7
25000	84.7	85.1	85.0	86.2	87.6	87.4	86.9	85.6	82.9
31500	84.0	84.2	84.4	85.5	86.5	86.8	85.8	84.3	81.6
40000	83.7	84.0	84.3	85.1	85.8	86.0	84.9	83.1	80.4
50000	83.4	83.4	84.0	85.2	85.3	85.4	84.2	82.4	79.8
63000	83.3	83.7	84.3	84.9	85.5	85.3	83.9	82.3	79.9
80000	83.8	83.8	84.3	85.1	85.3	85.0	83.7	81.9	79.7
TSPL	99.0	99.1	99.5	100.8	101.5	102.2	102.9	104.2	105.7
SSPL	98.8	98.9	99.3	100.7	101.5	102.1	102.9	104.1	105.5

V_∞ = 199 fps
T_a = 55°F
RH_a = 71%
P_a = 14.27 psia

STAND XARF RIG ID VT=199 TEST DATE 05/21/76 SCALE RATIO 0.0/1 RUN NUMBER 3644 CONDITION 3644

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.82	0.0		1.82	0.0	THRUST,IDL	LB	65.2	0.0	N	290.1	0.0
TEMP	(R)	707.0		0.0	(K)	392.8	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067		0.0	KG/M3	1.070	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1154.0		0.0	M/S	351.7	0.0	W (MODEL)	LB/S	1.8	0.0	KG/S	0.8	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.4	78.8	76.4	76.7	71.0	69.1	71.8	75.8	82.3	94.8
.125	76.0	77.4	74.7	73.8	69.4	71.2	71.9	74.2	81.0	93.1
.160	73.8	76.3	73.6	73.9	71.4	71.3	71.4	74.8	78.5	92.3
.200	74.7	76.5	73.8	75.8	72.6	73.7	76.6	78.2	77.8	93.9
.250	75.3	66.2	76.5	76.4	77.7	77.0	76.9	81.0	79.5	95.3
.315	76.4	79.1	79.2	78.7	77.8	77.6	78.0	80.6	86.8	97.8
.400	79.4	78.9	78.7	79.2	78.2	78.4	81.5	83.2	87.7	98.9
.500	78.8	77.8	78.8	79.1	79.4	81.3	83.4	86.8	90.7	100.8
.630	80.2	80.1	80.4	81.0	81.4	82.6	84.4	87.4	92.2	102.2
.800	85.4	82.3	83.1	84.0	83.3	83.8	86.3	90.2	94.9	104.7
1.00	83.1	84.9	85.2	86.1	85.2	85.4	87.0	91.0	95.7	105.8
1.25	84.4	84.8	84.4	86.4	87.2	87.3	88.8	92.2	96.1	106.7
1.60	85.0	85.2	85.8	87.4	88.4	88.6	90.0	92.7	96.0	107.5
2.00	85.6	86.6	88.1	89.0	88.9	89.7	91.6	93.6	95.7	108.4
2.50	86.2	86.3	86.5	88.6	89.4	90.1	91.5	93.6	95.1	108.3
3.15	86.3	86.7	87.5	88.7	89.4	90.2	91.8	93.5	94.0	108.3
4.00	86.6	86.7	86.8	88.6	89.8	90.9	91.8	93.4	93.3	108.3
5.00	86.9	87.3	87.2	89.2	90.2	91.2	92.2	93.1	92.3	108.5
6.30	86.6	86.9	87.5	89.1	90.0	90.9	91.9	92.2	90.9	108.1
8.00	87.2	86.6	87.2	88.9	90.2	91.4	91.5	91.7	90.0	108.0
10.0	86.7	86.8	87.1	88.4	89.6	90.3	90.9	90.8	88.6	107.4
12.5	86.3	86.3	86.5	88.2	89.1	89.8	90.1	89.3	87.0	106.7
16.0	86.1	86.1	86.2	87.8	88.7	89.3	89.3	88.1	85.5	106.1
20.0	85.1	85.2	85.4	86.7	87.7	88.1	87.9	86.6	83.7	105.0
25.0	84.7	85.1	85.0	86.2	87.6	87.4	86.9	85.6	82.9	104.5
31.5	84.0	84.2	84.4	85.5	86.5	86.8	85.8	84.3	81.6	103.6
40.0	83.7	84.0	84.3	85.1	85.8	86.0	84.9	83.1	80.4	103.0
50.0	83.4	83.4	84.0	85.2	85.3	85.4	84.2	82.4	79.8	102.6
63.0	83.3	83.7	84.3	84.9	85.5	85.3	83.9	82.3	79.9	102.6
80.0	83.8	83.8	84.3	85.1	85.3	85.0	83.7	81.9	79.7	102.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.0	99.1	99.5	100.8	101.5	102.2	102.9	104.2	105.7	OAPWL = 120.0

V_∞ = 199 fps
T_a = 55°F
RH_a = 71%
P_a = 14.27 psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XARF	0	3645	3645

DBTF JET NOISE TEST CONF. 1 2.2" DIA
, NOZ. TAPE 4914 10,2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	69.8	69.4	72.4	74.4	73.1	71.8	73.5	77.3	82.2
125	68.9	71.3	73.7	73.6	72.4	73.8	74.8	78.2	83.9
160	70.3	73.7	75.0	76.9	76.1	75.7	76.4	80.6	86.5
200	72.3	74.5	75.6	78.5	77.2	78.2	81.7	82.9	86.6
250	74.1	76.9	78.1	78.7	81.0	81.6	81.9	87.1	88.6
315	78.7	81.6	81.5	81.9	81.9	82.1	83.5	87.6	95.7
400	82.4	82.4	82.2	82.5	82.1	82.8	87.0	89.9	97.8
500	83.0	82.8	82.2	82.1	83.5	86.5	90.3	94.2	97.4
630	81.6	82.4	82.8	84.8	85.9	87.9	90.6	95.8	101.9
800	87.5	84.9	85.8	87.7	87.5	89.1	93.1	98.3	103.1
1000	85.4	86.9	87.9	89.9	90.3	90.6	93.1	99.8	104.4
1250	85.8	86.1	86.7	89.3	91.0	92.0	94.7	100.7	104.7
1600	86.0	87.3	87.4	90.1	92.0	93.4	96.4	100.6	104.7
2000	86.9	88.3	90.2	91.6	92.9	94.4	97.4	100.7	103.5
2500	87.2	87.8	88.6	91.4	93.1	94.9	97.2	100.5	101.5
3150	87.2	88.5	89.7	91.5	93.3	94.9	97.5	99.6	99.7
4000	87.6	88.4	89.0	91.6	93.5	95.3	97.5	99.4	97.9
5000	88.0	89.3	89.5	92.1	93.9	95.8	97.6	98.4	96.6
6300	87.6	88.7	89.7	91.9	93.5	95.4	97.0	97.1	95.0
8000	88.1	88.3	89.4	91.7	93.6	95.5	96.6	96.4	93.1
10000	87.8	88.8	89.4	91.2	93.1	94.8	95.9	95.3	91.8
12500	87.3	88.0	88.6	90.9	92.5	94.1	94.7	93.6	90.4
16000	87.3	87.9	88.4	90.7	92.2	93.6	93.8	92.2	88.9
20000	86.1	86.9	87.5	89.5	91.2	92.5	92.4	90.4	86.8
25000	85.5	86.4	86.9	88.8	91.0	91.5	91.2	89.6	86.0
31500	84.9	85.6	86.2	88.2	89.9	90.8	90.1	87.8	84.6
40000	84.4	85.1	85.9	87.7	89.2	89.7	88.8	86.6	83.5
50800	83.9	84.5	85.6	87.6	88.5	89.3	88.0	85.7	82.8
63000	83.8	84.9	85.8	87.2	88.5	89.0	87.5	85.7	83.1
80000	84.3	85.0	85.9	87.6	88.5	88.8	87.6	85.5	83.5
TSPL	100.0	100.8	101.6	103.6	105.2	106.7	108.3	110.7	113.2
SSPL	99.9	100.6	101.4	103.5	105.1	106.6	108.3	110.6	112.9

V_∞ =	100	fps
T_a =	56	°F
RH_a =	72	%
P_a =	14.51	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XARF	0	3645	3645

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	100.5	101.0	101.6	103.5	104.9	106.1	107.6	109.9	112.4
SSPL	100.3	100.9	101.5	103.4	104.8	106.1	107.6	109.8	112.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	100.7	101.1	101.6	103.4	104.6	105.7	107.1	109.3	111.8
SSPL	100.6	101.0	101.4	103.3	104.5	105.7	107.1	109.2	111.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG ND STND C OBS CORR
H631 315 05/21/76 -00 000000 XARF 0 3645 3645

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	70.5	69.8	72.5	74.1	72.5	70.9	72.0	74.8	78.9
125	69.6	71.8	73.8	73.3	71.8	72.9	73.4	75.7	80.1
160	71.0	74.2	75.1	76.6	75.5	74.8	75.0	77.9	82.7
200	73.0	74.9	75.7	78.3	76.6	77.3	80.2	81.0	83.5
250	74.8	77.3	78.2	78.5	80.5	80.7	80.4	84.6	87.1
315	79.4	82.0	81.5	81.6	81.3	81.1	82.0	84.8	90.9
400	83.1	82.7	82.2	82.2	81.5	81.8	85.3	87.4	92.9
500	83.7	83.1	82.2	81.9	83.0	85.5	88.6	91.9	94.9
630	82.3	82.8	82.9	84.6	85.4	86.9	89.0	93.0	98.2
800	88.2	85.2	85.9	87.5	86.9	88.1	91.3	95.6	100.0
1000	86.1	87.3	88.0	89.7	89.7	89.7	91.4	96.8	101.5
1250	86.5	86.5	86.8	89.1	90.5	91.0	93.0	97.9	102.1
1600	86.7	87.7	87.5	90.0	91.5	92.4	94.8	98.2	101.8
2000	87.6	88.8	90.3	91.4	92.4	93.4	95.8	98.6	101.1
2500	87.9	88.2	88.7	91.3	92.6	94.0	95.7	98.5	100.0
3150	87.8	88.9	89.7	91.3	92.7	93.9	96.0	97.8	98.4
4000	88.2	88.7	89.1	91.4	93.0	94.3	96.0	97.8	97.4
5000	88.6	89.7	89.6	91.9	93.4	94.8	96.2	97.1	96.1
6300	88.3	89.1	89.8	91.7	93.0	94.4	95.7	96.0	94.6
8000	88.8	88.7	89.5	91.6	93.1	94.6	95.4	95.4	93.3
10000	88.5	89.2	89.5	91.0	92.6	93.8	94.7	94.4	92.0
12500	87.9	88.3	88.7	90.7	91.9	93.1	93.5	92.7	90.4
16000	88.0	88.3	88.5	90.5	91.7	92.7	92.7	91.5	88.9
20000	86.7	87.3	87.6	89.3	90.7	91.6	91.3	89.7	86.9
25000	86.1	86.7	86.9	88.6	90.4	90.6	90.1	88.8	86.1
31500	85.5	86.0	86.3	88.0	89.3	89.9	89.1	87.2	84.5
40000	85.1	85.5	86.0	87.5	88.7	88.8	87.9	86.0	83.4
50000	84.6	84.9	85.7	87.4	87.9	88.4	87.1	85.1	82.5
63000	84.4	85.2	85.8	86.9	88.0	88.2	86.5	84.9	82.7
80000	84.9	85.3	86.0	87.3	87.9	87.9	86.6	84.7	82.8
TSPL	100.7	101.2	101.6	103.4	104.7	105.7	106.9	108.7	110.8
SSPL	100.6	101.0	101.5	103.3	104.6	105.6	106.8	108.6	110.6

V_∞ =	100	fps
T_a =	56	°F
RH_a =	72	%
P_a =	14.51	psia

20036F D6TF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3645 CONDITION 3645

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.81	0.0		1.81	0.0	THRUST,IDL	LB	66.2	0.0	N	294.6	0.0
TEMP	(R)	714.0	0.0	(K)	396.7	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.066	0.0	KG/M3	1.059	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1159.0	0.0	M/S	353.3	0.0	W (MODEL)	LB/S	1.8	0.0	KG/S	0.8	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	70.5	69.8	72.5	74.1	72.5	70.9	72.0	74.8	78.9	91.3
.125	69.6	71.8	73.8	73.3	71.8	72.9	73.4	75.7	80.1	92.0
.160	71.0	74.2	75.1	76.6	75.5	74.8	75.0	77.9	82.7	94.4
.200	73.0	74.9	75.7	78.3	76.6	77.3	80.2	81.0	83.5	96.5
.250	74.8	77.3	78.2	78.5	80.5	80.7	80.4	84.6	87.1	99.0
.315	79.4	82.0	81.5	81.6	81.3	81.1	82.0	84.8	90.9	101.2
.400	83.1	82.7	82.2	82.2	81.5	81.8	85.3	87.4	92.9	102.9
.500	83.7	83.1	82.2	81.9	83.0	85.5	88.6	91.9	94.9	105.3
.630	82.3	82.8	82.9	84.6	85.4	86.9	89.0	93.0	98.2	107.0
.800	88.2	85.2	85.9	87.5	86.9	88.1	91.3	95.6	100.0	109.3
1.00	86.1	87.3	88.0	89.7	89.7	89.7	91.4	96.8	101.5	110.6
1.25	86.5	86.5	86.8	89.1	90.5	91.0	93.0	97.9	102.1	111.3
1.60	86.7	87.7	87.5	90.0	91.5	92.4	94.8	98.2	101.8	111.9
2.00	87.6	88.8	90.3	91.4	92.4	93.4	95.8	98.6	101.1	112.4
2.50	87.9	88.2	88.7	91.3	92.6	94.0	95.7	98.5	100.0	112.2
3.15	87.8	88.9	89.7	91.3	92.7	93.9	96.0	97.8	98.4	111.9
4.00	88.2	88.7	89.1	91.4	93.0	94.3	96.0	97.6	97.4	111.9
5.00	88.6	89.7	89.6	91.9	93.4	94.8	96.2	97.1	96.1	111.9
6.30	88.3	89.1	89.8	91.7	93.0	94.4	95.7	96.0	94.6	111.3
8.00	88.8	88.7	89.5	91.6	93.1	94.6	95.4	95.4	93.3	111.1
10.0	88.5	89.2	89.5	91.0	92.6	93.8	94.7	94.4	92.0	110.5
12.5	87.9	88.3	88.7	90.7	91.9	93.1	93.5	92.7	90.4	109.6
16.0	88.0	88.3	88.5	90.5	91.7	92.7	92.7	91.5	88.9	109.1
20.0	86.7	87.3	87.6	89.3	90.7	91.6	91.3	89.7	86.9	107.9
25.0	86.1	86.7	86.9	88.6	90.4	90.6	90.1	88.6	86.1	107.1
31.5	85.5	86.0	86.3	88.0	89.3	89.9	89.1	87.2	84.5	106.2
40.0	85.1	85.5	86.0	87.5	88.7	88.8	87.9	86.0	83.4	105.5
50.0	84.6	84.9	85.7	87.4	87.9	88.4	87.1	85.1	82.5	104.9
63.0	84.4	85.2	85.8	86.9	88.0	88.2	86.5	84.9	82.7	104.8
80.0	84.9	85.3	86.0	87.3	87.9	87.9	86.6	84.7	82.8	104.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	100.7	101.2	101.6	103.5	104.7	105.7	106.9	108.7	110.8	OAPWL = 123.5

V_∞ =	100	fps
T_a =	56	°F
RH_a =	72	%
P_a =	14.51	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/21/76		-00 000000	XARF 0	3648 3648

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	65.5	65.6	67.9	69.2	68.1	67.3	69.3	71.8	76.0
125	64.8	67.7	69.7	69.6	68.3	69.8	70.6	73.3	78.3
160	66.1	69.9	71.0	72.5	71.7	71.5	72.3	75.9	81.4
200	68.4	70.6	71.5	74.3	72.8	73.9	77.2	78.5	81.5
250	69.8	72.5	73.8	74.1	76.3	76.9	77.7	82.6	83.4
315	73.8	76.8	76.8	77.6	77.6	77.8	79.4	83.2	90.5
400	77.2	77.6	77.4	78.3	78.0	78.7	82.9	85.4	93.1
500	78.0	78.0	77.7	78.1	79.1	82.1	85.6	89.3	91.9
630	76.7	77.5	78.3	80.4	81.6	83.3	85.9	90.5	96.0
800	82.2	80.1	80.9	82.6	83.0	84.7	88.1	92.8	96.9
1000	80.2	81.5	82.6	84.5	85.3	85.8	88.0	93.8	97.9
1250	80.3	80.9	81.7	84.0	86.1	87.1	89.0	94.4	97.6
1600	80.5	81.8	82.2	84.7	86.7	87.9	90.6	94.1	97.0
2000	81.5	82.9	84.3	86.2	87.6	89.0	91.8	94.4	95.8
2500	82.0	82.8	83.5	86.1	87.9	89.5	91.5	94.2	94.2
3150	82.0	83.1	84.3	86.2	87.9	89.4	91.6	93.7	92.9
4000	82.3	83.0	83.8	86.4	88.2	89.8	91.3	93.1	91.2
5000	82.6	83.6	84.2	86.8	88.3	89.9	91.4	92.2	90.2
6300	82.0	83.1	84.0	86.4	87.9	89.6	90.8	90.9	88.7
8000	82.3	82.6	83.6	86.1	87.8	89.5	90.1	90.1	86.8
10000	81.7	82.6	83.4	85.5	87.2	88.6	89.4	89.0	85.2
12500	81.0	82.0	82.7	85.0	86.5	87.8	88.4	87.4	83.9
16000	80.6	81.4	82.2	84.3	86.0	87.2	87.1	85.7	82.4
20000	79.6	80.5	81.2	83.4	84.8	86.1	85.9	84.0	80.5
25000	79.2	80.2	80.8	82.8	84.8	85.4	84.9	83.4	79.6
31500	78.6	79.5	80.3	82.2	83.7	84.6	83.7	82.1	78.3
40000	78.5	79.4	80.2	81.9	83.2	83.9	82.8	81.0	77.5
50000	78.4	79.0	80.0	82.0	82.8	83.6	82.4	80.2	76.6
63000	78.3	79.1	80.2	81.7	82.9	83.4	81.9	79.9	76.7
80000	78.1	78.8	80.0	81.7	82.5	83.0	81.5	79.3	76.6
TSPL	94.4	95.2	96.0	98.1	99.6	101.0	102.4	104.6	106.5
SSPL	94.2	95.0	95.8	98.0	99.5	100.9	102.3	104.5	106.1

V_∞ =	101	fps
T_a =	59	°F
RH_a =	52	%
P_a =	14.51	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XARF	0	3648	3648

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	94.8	95.4	96.1	98.0	99.3	100.5	101.7	103.8	105.7
SSPL	94.7	95.2	95.9	97.9	99.2	100.4	101.6	103.6	105.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	95.1	95.5	96.0	97.9	99.0	100.1	101.2	103.2	105.1
SSPL	94.9	95.3	95.9	97.7	98.9	100.0	101.1	103.1	104.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
N631	315	05/21/76		-00 000000	XARF	0	3648	3648

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	66.2	66.0	68.0	68.9	67.4	66.4	67.9	69.7	72.8
125	65.5	68.2	69.8	69.3	67.7	68.9	69.3	71.1	74.8
160	66.8	70.4	71.1	72.2	71.1	70.6	70.9	73.4	77.8
200	69.1	71.0	71.6	74.0	72.2	73.0	75.7	76.7	78.8
250	70.5	72.9	73.9	73.9	75.7	76.0	76.2	80.2	82.1
315	74.5	77.2	76.8	77.3	77.0	76.9	77.9	80.5	86.0
400	77.9	77.9	77.4	78.0	77.4	77.7	81.3	83.0	88.3
500	78.7	78.3	77.7	77.9	78.6	81.1	84.0	87.1	89.6
630	77.4	77.9	78.4	80.2	81.1	82.3	84.3	87.8	92.5
800	82.9	80.4	81.0	82.4	82.4	83.7	86.4	90.3	94.1
1000	80.9	81.9	82.7	84.3	84.7	84.9	86.4	91.0	95.2
1250	81.0	81.3	81.8	83.8	85.6	86.2	87.4	91.8	95.3
1600	81.2	82.2	82.3	84.6	86.2	86.9	89.1	91.9	94.6
2000	82.2	83.3	84.4	86.0	87.1	88.0	90.3	92.5	94.0
2500	82.7	83.2	83.6	86.0	87.4	88.6	90.1	92.4	93.1
3150	82.6	83.4	84.3	86.0	87.3	88.4	90.1	92.0	92.1
4000	82.9	83.3	83.9	86.2	87.6	88.8	89.9	91.6	90.9
5000	83.2	84.0	84.3	86.6	87.8	88.9	90.1	90.9	89.8
6300	82.7	83.5	84.1	86.2	87.4	88.7	89.5	89.8	88.4
8000	83.0	83.0	83.7	86.0	87.3	88.6	88.9	89.1	87.0
10000	82.4	83.0	83.5	85.3	86.7	87.7	88.2	88.1	85.6
12500	81.6	82.3	82.8	84.8	85.9	86.8	87.2	86.5	84.0
16000	81.3	81.8	82.3	84.1	85.5	86.3	86.0	84.9	82.4
20000	80.2	80.9	81.3	83.2	84.2	85.2	84.8	83.3	80.5
25000	79.8	80.5	80.8	82.6	84.2	84.5	83.8	82.6	79.8
31500	79.2	79.9	80.4	82.0	83.1	83.7	82.7	81.4	78.5
40000	79.2	79.8	80.3	81.7	82.7	83.0	81.9	80.3	77.6
50000	79.1	79.4	80.1	81.8	82.2	82.7	81.5	79.6	76.7
63000	78.9	79.4	80.2	81.4	82.3	82.5	80.9	79.2	76.6
80000	78.8	79.1	80.1	81.5	81.9	82.1	80.6	78.6	76.2
TSPL	95.1	95.6	96.1	98.0	99.1	100.0	101.0	102.8	104.3
SSPL	94.9	95.4	95.9	97.8	99.0	99.9	100.9	102.6	104.1

V_∞ =	101	fps
T_a =	59	°F
RH_a =	52	%
P_a =	14.51	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3648 CONDITION 3648

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.54	0.0		1.54	0.0	THRUST,IDL	LB		46.5	0.0	N	206.8	0.0
TEMP	(R)		712.0	0.0	(K)	395.6	0.0	THRUST,MEA	LB		0.0		N	0.0	
RHO	LB/FT3		0.063	0.0	KG/M3	1.015	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		998.0	0.0	M/S	304.2	0.0	W (MODEL)	LB/S		1.5	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	66.2	66.0	68.0	68.9	67.4	66.4	67.9	69.7	72.8	86.4
.125	65.5	68.2	69.8	69.3	67.7	68.9	69.3	71.1	74.8	87.8
.160	66.8	70.4	71.1	72.2	71.1	70.6	70.9	73.4	77.8	90.1
.200	69.1	71.0	71.6	74.0	72.2	73.0	75.7	76.7	78.8	92.1
.250	70.5	72.9	73.9	73.9	75.7	76.0	76.2	80.2	82.1	94.4
.315	74.5	77.2	76.8	77.3	77.0	76.9	77.9	80.5	86.0	96.7
.400	77.9	77.9	77.4	78.0	77.4	77.7	81.3	83.0	88.3	98.5
.500	78.7	78.3	77.7	77.9	78.6	81.1	84.0	87.1	89.6	100.6
.630	77.4	77.9	78.4	80.2	81.1	82.3	84.3	87.8	92.5	101.9
.800	82.9	80.4	81.0	82.4	82.4	83.7	86.4	90.3	94.1	104.0
1.00	80.9	81.9	82.7	84.3	84.7	84.9	86.4	91.0	95.2	105.0
1.25	81.0	81.3	81.8	83.8	85.6	86.2	87.4	91.8	95.3	105.4
1.60	81.2	82.2	82.3	84.6	86.2	86.9	89.1	91.9	94.6	105.8
2.00	82.2	83.3	84.4	86.0	87.1	88.0	90.3	92.5	94.0	106.5
2.50	82.7	83.2	83.6	86.0	87.4	88.6	90.1	92.4	93.1	106.4
3.15	82.6	83.4	84.3	86.0	87.3	88.4	90.1	92.0	92.1	106.2
4.00	82.9	83.3	83.9	86.2	87.6	88.8	89.9	91.6	90.9	106.1
5.00	83.2	84.0	84.3	86.6	87.8	88.9	90.1	90.9	89.8	106.1
6.30	82.7	83.5	84.1	86.2	87.4	88.7	89.5	89.8	88.4	105.5
8.00	83.0	83.0	83.7	86.0	87.3	88.6	88.9	89.1	87.0	105.1
10.0	82.4	83.0	83.5	85.3	86.7	87.7	88.2	88.1	85.6	104.4
12.5	81.6	82.3	82.8	84.8	85.9	86.8	87.2	86.5	84.0	103.4
16.0	81.3	81.8	82.3	84.1	85.5	86.3	86.0	84.9	82.4	102.7
20.0	80.2	80.9	81.3	83.2	84.2	85.2	84.8	83.3	80.5	101.5
25.0	79.8	80.5	80.8	82.6	84.2	84.5	83.8	82.6	79.8	100.9
31.5	79.2	79.9	80.4	82.0	83.1	83.7	82.7	81.4	78.5	100.1
40.0	79.2	79.8	80.3	81.7	82.7	83.0	81.9	80.3	77.6	99.6
50.0	79.1	79.4	80.1	81.8	82.2	82.7	81.5	79.6	76.7	99.3
63.0	78.9	79.4	80.2	81.4	82.3	82.5	80.9	79.2	76.6	99.1
80.0	78.8	79.1	80.1	81.5	81.9	82.1	80.6	78.6	76.2	98.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.1	95.6	96.1	98.0	99.1	100.0	101.0	102.8	104.3	OAPWL = 117.7

V_∞ =	101	fps
T_a =	59	°F
RH_a =	52	%
P_a =	14.51	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XAKF 0 3649 3649

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER. FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	81.2	81.2	79.5	75.0	71.6	72.3	70.4	80.3	89.4
125	79.9	78.9	77.4	72.0	68.7	71.6	71.0	78.5	89.7
160	78.2	77.5	75.2	71.2	68.8	72.0	71.0	79.0	72.1
200	76.5	76.2	73.9	72.2	70.0	72.3	74.7	78.1	81.2
250	75.8	75.7	74.9	72.8	74.4	74.3	74.6	81.2	79.8
315	76.8	78.0	76.1	74.9	74.7	75.1	76.3	81.8	89.2
400	77.8	76.5	75.3	75.5	75.2	76.2	80.1	82.9	87.3
500	76.3	76.1	75.5	75.4	76.1	78.6	81.8	86.4	89.4
630	77.0	76.5	76.3	77.0	76.4	80.1	82.8	87.1	92.4
800	79.6	77.5	78.1	79.6	79.9	81.1	84.4	89.3	93.6
1000	77.9	78.8	79.7	81.1	81.3	82.5	84.6	89.8	93.0
1250	78.1	78.7	79.0	81.1	82.8	83.8	85.9	90.4	92.6
1600	78.7	79.3	80.0	82.2	83.7	84.9	86.8	90.0	92.0
2000	79.0	80.3	81.8	83.5	84.6	85.8	88.3	90.4	91.1
2500	79.6	80.1	80.8	83.1	84.9	86.2	88.1	90.4	89.7
3150	79.6	80.4	81.5	83.3	84.9	86.2	88.1	89.8	88.2
4000	79.8	80.3	80.9	83.1	85.3	86.6	87.9	89.3	86.6
5000	79.9	80.8	81.4	83.8	85.3	86.8	88.1	88.5	85.7
6300	79.5	80.3	81.5	83.5	85.2	86.5	87.5	87.2	84.2
8000	79.8	79.8	81.1	83.3	85.0	86.5	86.7	86.5	82.5
10000	79.3	80.0	80.9	82.6	84.4	85.7	86.1	85.4	81.1
12500	78.4	79.1	80.1	82.2	83.8	84.9	85.0	83.6	79.7
16000	78.2	79.1	79.9	81.9	83.4	84.3	84.2	82.5	78.5
20000	77.5	78.3	79.1	81.0	82.4	83.3	82.9	80.9	76.9
25000	76.9	78.0	78.7	80.3	82.3	82.5	81.9	80.4	75.6
31500	76.5	77.4	78.3	79.9	81.5	82.0	81.1	79.1	74.6
40000	76.5	77.3	78.3	79.7	81.0	81.4	80.3	78.1	74.0
50000	76.7	76.7	78.1	79.8	80.6	81.1	79.8	77.3	73.3
63000	76.4	76.7	78.0	79.1	80.5	80.7	79.2	77.2	72.7
80000	75.8	76.4	77.8	79.2	80.2	80.5	79.0	76.4	73.2
TSPL	93.1	93.5	93.9	95.4	96.8	97.9	99.1	101.0	102.6
SSPL	92.0	92.5	93.3	95.2	96.7	97.8	99.0	100.7	101.7

V_∞ =	199	fps
T_a =	56	°F
RH_a =	59	%
P_a =	14.27	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00	000000	XARF	0	3649	3649

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	94.0	94.0	94.1	95.2	96.2	97.0	97.8	99.5	101.9
SSPL	92.9	93.0	93.5	95.0	96.1	96.9	97.7	99.2	101.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	94.4	94.2	94.0	94.9	95.6	96.1	96.8	98.4	100.4
SSPL	93.3	93.2	93.4	94.6	95.5	96.0	96.6	98.2	99.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS CORR
W631	315	05/21/76		-00 000000	XARF	0	3649 3649

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	82.5	81.8	79.0	74.0	70.3	70.5	67.8	72.7	81.6
125	81.2	79.4	76.8	71.0	67.4	69.7	68.4	71.8	80.2
160	79.5	77.9	74.7	70.2	67.6	70.1	68.4	73.8	75.1
200	77.8	76.7	73.6	71.4	68.7	70.3	71.8	74.0	76.9
250	77.1	76.3	74.6	72.1	73.2	72.5	71.8	76.1	78.9
315	78.1	78.5	75.9	74.2	73.5	73.3	73.5	76.4	82.2
400	79.1	77.0	75.2	74.9	74.1	74.2	76.9	79.0	82.0
500	77.7	76.7	75.4	74.8	75.0	76.6	76.6	81.8	85.3
630	78.3	77.1	76.4	76.5	77.3	78.2	79.8	82.5	86.7
800	81.0	78.1	78.3	79.1	78.7	79.2	81.2	84.5	88.6
1000	79.2	79.5	79.9	80.6	80.2	80.6	81.6	84.9	88.8
1250	79.5	79.4	79.2	80.7	81.6	81.9	83.0	85.9	89.1
1600	80.0	80.0	80.2	81.7	82.5	83.0	84.0	86.1	88.5
2000	80.4	81.1	82.0	83.0	83.4	83.9	85.5	87.1	88.4
2500	80.9	80.8	81.0	82.7	83.8	84.3	85.4	87.1	88.0
3150	80.9	81.2	81.7	82.9	83.8	84.3	85.5	86.8	86.9
4000	81.2	81.0	81.1	82.7	84.1	84.7	85.3	86.5	86.1
5000	81.2	81.5	81.7	83.3	84.1	84.9	85.6	86.1	85.2
6300	80.8	81.1	81.7	83.0	84.1	84.6	85.1	85.1	83.8
8000	81.1	80.6	81.4	82.9	83.9	84.7	84.5	84.5	82.8
10000	80.6	80.8	81.1	82.1	83.2	83.9	83.9	83.6	81.5
12500	79.7	79.8	80.3	81.8	82.6	83.0	82.8	82.0	79.8
16000	79.5	79.8	80.1	81.5	82.3	82.5	82.1	81.0	78.6
20000	78.8	79.0	79.3	80.5	81.2	81.5	80.9	79.5	76.9
25000	78.3	78.7	78.8	79.8	81.1	80.7	79.9	78.9	76.3
31500	77.8	78.1	78.5	79.4	80.3	80.2	79.2	77.8	75.0
40000	77.8	78.1	78.5	79.2	79.9	79.7	78.4	76.8	74.2
50000	78.0	77.4	78.3	79.3	79.4	79.3	78.0	76.1	73.3
63000	77.7	77.4	78.1	78.6	79.3	79.0	77.4	75.8	73.1
80000	77.2	77.2	78.0	78.7	79.0	78.8	77.3	75.2	72.7
TSPL	94.4	94.1	94.1	94.9	95.7	96.1	96.6	97.7	99.1
SSPL	93.3	93.2	93.5	94.7	95.5	96.0	96.4	97.5	98.6

V_∞ =	199	fps
T_a =	56	°F
RH_a =	59	%
P_a =	14.27	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3649 CONDITION 3649

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.54	0.0		1.54	0.0	THRUST,IDL	LB		22.9	0.0	N	101.7	0.0
TEMP	(R)		709.0	0.0	(K)	393.9	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.064	0.0	KG/M3	1.019	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		995.0	0.0	M/S	303.3	0.0	W (MODEL)	LB/S		0.7	0.0	KG/S	0.3	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	82.5	81.8	79.0	74.0	70.3	70.5	67.8	72.7	81.6	96.1
.125	81.2	79.4	76.8	71.0	67.4	69.7	68.4	71.8	80.2	94.1
.160	79.5	77.9	74.7	70.2	67.6	70.1	68.4	73.6	75.1	92.6
.200	77.8	76.7	73.6	71.4	68.7	70.3	71.8	74.0	76.9	92.2
.250	77.1	76.3	74.6	72.1	73.2	72.5	71.8	76.1	78.9	93.0
.315	78.1	78.5	75.9	74.2	73.5	73.3	73.5	76.4	82.2	94.6
.400	79.1	77.0	75.2	74.9	74.1	74.2	76.9	79.0	82.0	95.1
.500	77.7	76.7	75.4	74.8	75.0	76.6	78.6	81.8	85.3	96.4
.630	78.3	77.1	76.4	76.5	77.3	78.2	79.8	82.5	86.7	97.6
.800	81.0	78.1	78.3	79.1	78.7	79.2	81.2	84.5	88.6	99.4
1.00	79.2	79.5	79.9	80.6	80.2	80.6	81.6	84.9	88.8	100.1
1.25	79.5	79.4	79.2	80.7	81.6	81.9	83.0	85.9	89.1	100.8
1.60	80.0	80.0	80.2	81.7	82.5	83.0	84.0	86.1	88.5	101.3
2.00	80.4	81.1	82.0	83.0	83.4	83.9	85.5	87.1	88.4	102.3
2.50	80.9	80.8	81.0	82.7	83.8	84.3	85.4	87.1	88.0	102.2
3.15	80.9	81.2	81.7	82.9	83.8	84.3	85.5	86.8	86.9	102.2
4.00	81.2	81.0	81.1	82.7	84.1	84.7	85.3	86.5	86.1	102.1
5.00	81.2	81.5	81.7	83.3	84.1	84.9	85.6	86.1	85.2	102.2
6.30	80.8	81.1	81.7	83.0	84.1	84.6	85.1	85.1	83.8	101.8
8.00	81.1	80.6	81.4	82.9	83.9	84.7	84.5	84.5	82.8	101.5
10.0	80.6	80.8	81.1	82.1	83.2	83.9	83.9	83.6	81.5	100.8
12.5	79.7	79.8	80.3	81.8	82.6	83.0	82.8	82.0	79.8	99.9
16.0	79.5	79.8	80.1	81.5	82.3	82.5	82.1	81.0	78.6	99.5
20.0	78.8	79.0	79.3	80.5	81.2	81.5	80.9	79.5	76.9	98.5
25.0	78.3	78.7	78.8	79.8	81.1	80.7	79.9	78.9	76.3	97.9
31.5	77.8	78.1	78.5	79.4	80.3	80.2	79.2	77.8	75.0	97.3
40.0	77.8	78.1	78.5	79.2	79.9	79.7	78.4	76.8	74.2	97.0
50.0	78.0	77.4	78.3	79.3	79.4	79.3	78.0	76.1	73.3	96.6
63.0	77.7	77.4	78.1	78.6	79.3	79.0	77.4	75.8	73.1	96.3
80.0	77.2	77.2	78.0	78.7	79.0	78.8	77.3	75.2	72.7	96.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	94.4	94.1	94.1	94.9	95.7	96.1	96.6	97.7	99.1	OAPWL = 114.0

V_∞ =	199	fps
T_a =	56	°F
RH_a =	59	%
P_a =	14.27	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XARF	0	3650	3650

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.0	74.0	76.7	79.6	79.9	79.1	79.5	80.3	88.6
125	72.6	72.1	74.1	74.8	64.1	60.7	78.4	76.9	89.3
160	70.5	71.3	70.8	63.5	64.5	60.3	61.1	76.3	87.4
200	71.1	72.0	70.7	61.8	57.5	75.5	67.7	74.9	89.9
250	69.5	70.3	69.2	63.5	66.6	66.6	66.9	77.1	90.4
315	67.9	70.0	65.8	66.4	67.7	67.7	69.5	76.7	90.6
400	67.7	68.5	64.7	68.1	68.5	69.4	73.5	76.9	97.3
500	67.3	68.6	65.7	68.4	69.0	71.7	74.7	78.9	77.1
630	68.0	69.4	67.7	70.1	71.5	73.4	75.8	79.4	82.5
800	68.4	70.7	70.0	72.3	73.1	74.5	76.8	80.5	83.3
1000	68.3	68.8	71.5	73.6	74.1	75.4	76.8	80.4	82.3
1250	66.5	67.4	71.3	73.7	75.2	76.5	77.6	80.7	81.8
1600	68.8	69.8	72.3	74.5	76.1	77.2	78.6	80.5	81.4
2000	70.0	71.6	73.9	75.7	76.9	78.0	79.5	80.9	80.8
2500	70.6	71.4	73.0	75.5	76.8	77.9	79.1	80.5	79.4
3150	71.0	72.0	73.7	75.5	76.6	77.7	78.9	79.8	78.2
4000	71.2	71.9	73.0	75.1	76.8	77.9	78.5	79.4	76.7
5000	71.5	72.4	73.3	75.7	76.7	77.7	78.3	78.2	75.5
6300	70.6	71.8	73.2	75.1	76.2	77.2	77.5	77.0	73.9
8000	70.9	71.7	72.9	74.7	76.2	77.2	76.8	76.4	72.5
10000	70.3	71.6	72.4	73.9	75.3	76.1	76.1	75.1	71.0
12500	69.7	70.9	72.0	73.7	75.0	75.4	74.9	73.5	69.4
16000	69.7	71.1	71.4	73.2	74.3	74.8	74.0	72.5	67.8
20000	68.7	70.2	70.7	72.3	73.4	73.8	72.8	70.9	66.1
25000	68.1	69.9	70.4	71.8	73.4	73.0	71.9	70.0	64.1
31500	68.6	69.4	69.9	71.3	72.4	72.5	71.2	68.9	62.9
40000	67.9	69.4	70.1	71.0	71.9	72.0	70.5	68.1	63.3
50000	68.6	68.8	70.5	71.0	71.9	71.8	70.1	67.1	64.3
63000	68.4	69.2	70.5	70.4	71.1	71.7	69.0	65.9	64.2
80000	70.4	70.2	71.6	70.7	69.9	71.8	66.9	58.9	64.1
TSPL	84.8	85.5	86.5	88.1	89.0	89.9	90.7	92.3	100.8
SSPL	83.0	84.1	85.3	87.1	88.3	89.2	89.8	91.2	91.3

V_∞ =	199	fps
T_a =	53	°F
RH_a =	66	%
P_a =	14.27	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	85.7	86.0	86.7	87.9	88.4	88.9	89.4	90.8	100.1
SSPL	83.9	84.6	85.5	86.9	87.7	88.2	88.5	89.7	90.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	86.1	86.2	86.6	87.6	87.8	88.1	88.3	89.7	98.6
SSPL	84.3	84.8	85.4	86.5	87.1	87.4	87.5	88.6	89.1

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR.
W631 315 05/21/76 -00 000000 XARF 0 3650 3650

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	77.3	74.7	77.1	79.1	78.7	77.4	77.1	76.7	80.5
125	73.9	72.8	74.3	73.6	62.6	58.4	72.9	74.8	78.2
160	71.8	72.0	70.1	62.7	63.3	56.7	57.5	66.5	78.8
200	72.4	72.6	69.9	60.6	56.6	73.1	66.7	67.6	77.9
250	70.8	70.9	68.6	62.9	65.5	64.9	63.9	69.1	79.8
315	69.2	70.4	63.6	66.0	66.5	65.9	66.4	70.0	79.3
400	69.0	69.0	64.8	67.7	67.3	67.4	70.3	71.2	81.2
500	68.6	69.1	65.7	67.9	67.9	69.7	71.6	75.0	76.3
630	69.3	70.0	67.8	69.6	70.4	71.5	72.9	75.2	78.2
800	69.7	71.4	70.1	71.8	72.0	72.6	73.9	76.3	79.3
1000	64.7	64.9	72.2	73.1	72.9	73.5	74.1	76.3	78.9
1250	67.8	68.3	71.8	73.3	74.1	74.7	75.0	76.9	78.9
1600	70.1	70.7	72.7	74.1	74.9	75.3	76.0	77.2	78.5
2000	71.3	72.4	74.2	75.2	75.7	76.1	76.9	77.9	78.5
2500	71.9	72.2	73.3	75.0	75.6	76.1	76.5	77.5	77.8
3150	72.3	72.8	73.9	75.0	75.5	75.8	76.4	77.1	76.9
4000	72.5	72.6	73.3	74.7	75.7	76.0	76.1	76.8	76.1
5000	72.8	73.2	73.6	75.2	75.6	75.8	76.0	76.0	74.8
6300	72.0	72.6	73.4	74.6	75.1	75.4	75.3	75.0	73.5
8000	72.2	72.4	73.1	74.3	75.0	75.4	74.7	74.4	72.6
10000	71.6	72.3	72.5	73.4	74.2	74.3	73.9	73.4	71.2
12500	71.0	71.6	72.2	73.2	73.8	73.6	72.9	71.9	69.6
16000	71.0	71.8	71.6	72.7	73.1	73.0	72.1	71.0	68.4
20000	70.0	70.9	70.8	71.8	72.2	72.0	70.9	69.5	66.7
25000	69.5	70.6	70.5	71.3	72.2	71.3	70.0	68.7	65.5
31500	69.9	70.1	70.0	70.8	71.2	70.8	69.4	67.8	64.3
40000	69.2	70.2	70.2	70.5	70.7	70.3	68.7	66.9	63.9
50000	69.9	69.6	70.7	70.5	70.7	70.1	68.4	65.9	63.4
63000	69.7	70.0	70.6	69.8	69.9	70.0	67.5	64.6	62.6
80000	71.7	71.0	71.6	70.0	68.7	70.1	66.2	59.0	57.4
TSPL	86.1	86.2	86.7	87.6	87.8	88.0	88.1	88.9	91.4
SSPL	84.3	84.8	85.6	86.6	87.1	87.4	87.4	88.1	88.8

V_∞ =	199	fps
T_a =	53	°F
RH_a =	66	%
P_a =	14.27	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3650 CONDITION 3650

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.31	0.0		1.31	0.0	THRUST,IDL	LB	33.0	0.0	N	146.6	0.0
TEMP	(R)		712.0	0.0	(K)	395.6	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.061	0.0	KG/M3	0.969	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		792.0	0.0	M/S	241.4	0.0	W (MODEL)	LB/S	1.3	0.0	KG/S	0.6	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.3	74.7	77.1	79.1	78.7	77.4	77.1	76.7	80.5	95.9
.125	73.9	72.8	74.3	73.6	62.6	58.4	72.9	74.8	78.2	91.2
.160	71.8	72.0	70.1	62.7	63.3	58.7	57.5	66.5	78.8	87.8
.200	72.4	72.6	69.9	60.6	56.6	73.1	66.7	67.6	77.9	88.9
.250	70.8	70.9	68.6	62.9	65.5	64.9	63.9	69.1	79.8	88.1
.315	69.2	70.4	63.6	66.0	66.5	65.9	66.4	70.0	79.3	87.8
.400	69.0	69.0	64.8	67.7	67.3	67.4	70.3	71.2	81.2	89.0
.500	68.6	69.1	65.7	67.9	67.9	69.7	71.6	75.0	76.3	88.8
.630	69.3	70.0	67.8	69.6	70.4	71.5	72.9	75.2	78.2	90.1
.800	69.7	71.4	70.1	71.8	72.0	72.6	73.9	76.3	79.3	91.4
1.00	64.7	64.9	72.2	73.1	72.9	73.5	74.1	76.3	78.9	91.6
1.25	67.8	68.3	71.8	73.3	74.1	74.7	75.0	76.9	78.9	92.2
1.60	70.1	70.7	72.7	74.1	74.9	75.3	76.0	77.2	78.5	92.9
2.00	71.3	72.4	74.2	75.2	75.7	76.1	76.9	77.9	78.5	93.9
2.50	71.9	72.2	73.3	75.0	75.6	76.1	76.5	77.5	77.8	93.6
3.15	72.3	72.8	73.9	75.0	75.5	75.8	76.4	77.1	76.9	93.5
4.00	72.5	72.6	73.3	74.7	75.7	76.0	76.1	76.8	76.1	93.3
5.00	72.8	73.2	73.6	75.2	75.6	75.8	76.0	76.0	74.8	93.2
6.30	72.0	72.6	73.4	74.6	75.1	75.4	75.3	75.0	73.5	92.6
8.00	72.2	72.4	73.1	74.3	75.0	75.4	74.7	74.4	72.6	92.4
10.0	71.6	72.3	72.5	73.4	74.2	74.3	73.9	73.4	71.2	91.6
12.5	71.0	71.6	72.2	73.2	73.8	73.6	72.9	71.9	69.6	90.9
16.0	71.0	71.8	71.6	72.7	73.1	73.0	72.1	71.0	68.4	90.4
20.0	70.0	70.9	70.8	71.8	72.2	72.0	70.9	69.5	66.7	89.4
25.0	69.5	70.6	70.5	71.3	72.2	71.5	70.0	68.7	65.5	89.0
31.5	69.9	70.1	70.0	70.8	71.2	70.8	69.4	67.8	64.3	88.4
40.0	69.2	70.2	70.2	70.5	70.7	70.3	68.7	66.9	63.9	88.1
50.0	69.9	69.6	70.7	70.5	70.7	70.1	68.4	65.9	63.4	88.0
63.0	69.7	70.0	70.6	69.8	69.9	70.0	67.5	64.6	62.6	87.7
80.0	71.7	71.0	71.6	70.0	68.7	70.1	66.2	59.0	57.4	87.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	86.1	86.2	86.7	87.6	87.8	88.0	88.1	88.9	91.4	OAPWL = 106.0

V_∞ =	199	fps
T_a =	53	°F
RH_a =	66	%
P_a =	14.27	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS CORR
W631	315	05/21/76		-00 000000	XARF	0	3651 3651

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	60.5	0.0	62.4	60.0	56.0	50.9	64.2	67.4	59.6
125	60.3	62.5	64.7	64.7	62.0	64.7	65.9	67.9	70.4
160	61.0	64.6	65.6	67.0	66.1	65.4	67.5	71.0	75.2
200	63.1	65.5	65.8	68.4	67.1	67.9	71.7	73.1	75.7
250	64.1	66.7	68.1	68.2	70.1	70.6	71.9	76.6	76.8
315	67.1	69.7	70.1	70.9	71.2	71.4	73.9	77.1	83.2
400	70.1	71.1	71.3	72.1	72.3	72.9	76.8	79.4	80.9
500	71.0	71.3	71.3	72.3	73.0	75.8	79.1	82.1	84.3
630	69.8	71.4	72.1	74.4	75.6	77.4	79.8	83.3	88.1
800	75.2	73.4	74.4	76.1	77.0	76.4	80.9	84.5	88.0
1000	73.5	74.4	75.4	77.6	78.4	79.3	80.8	84.9	86.0
1250	73.2	74.2	75.1	77.2	78.9	80.2	81.4	84.9	87.3
1600	73.9	75.2	75.8	77.9	79.6	80.9	82.5	85.0	86.8
2000	74.9	76.0	77.3	79.1	80.3	81.5	83.4	85.1	85.9
2500	74.8	75.8	76.4	76.8	80.3	81.7	82.9	84.8	84.2
3150	75.0	76.0	77.2	76.9	80.1	81.3	82.9	84.2	83.1
4000	75.2	75.8	76.5	76.7	80.2	81.5	82.2	83.7	81.3
5000	75.4	76.3	76.9	79.1	80.3	81.4	82.1	82.6	80.0
6300	74.7	75.6	76.5	78.5	79.6	80.7	81.3	81.2	78.5
8000	74.7	75.0	76.2	78.1	79.6	80.7	80.6	80.4	76.9
10000	74.0	75.0	75.8	77.3	78.6	79.5	79.8	79.4	75.3
12500	73.3	74.2	75.0	77.1	78.1	78.6	78.6	77.8	73.9
16000	72.9	73.8	74.4	76.2	77.5	78.1	77.7	76.4	72.2
20000	71.8	72.8	73.6	75.2	76.5	77.0	76.5	74.8	70.4
25000	71.3	72.4	72.9	74.6	76.1	76.2	75.4	74.0	69.2
31500	70.6	71.7	72.3	74.0	75.2	75.7	74.7	72.8	68.0
40000	70.6	71.4	72.2	73.6	74.7	75.0	73.7	71.7	67.3
50000	70.6	71.1	72.1	73.9	74.3	74.9	73.5	71.4	66.9
63000	71.2	71.6	72.6	73.7	74.3	74.7	73.3	70.8	67.8
80000	70.3	70.6	71.9	73.3	74.1	74.3	72.8	70.5	65.8
TSPL	87.2	88.0	88.8	90.6	91.8	92.9	93.9	95.7	97.0
SSPL	87.0	87.7	88.5	90.5	91.7	92.8	93.7	95.4	96.6

V_∞ =	98	fps
T_a =	53	°F
RH_a =	68	%
P_a =	14.52	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00	000000	XARF	0	3651	3651

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	87.6	88.2	88.8	90.5	91.5	92.4	93.2	94.8	96.2
SSPL	87.4	87.9	88.6	90.3	91.4	92.3	93.0	94.5	95.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	87.8	88.3	88.8	90.4	91.3	92.0	92.7	94.3	95.6
SSPL	87.6	88.0	88.6	90.2	91.1	91.9	92.5	94.0	95.2

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3651 3651

DBTF JET NOISE TEST CONF. 1. 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	61.2	0.4	63.8	59.6	55.2	49.9	61.8	66.3	62.3
125	61.0	62.9	64.8	64.3	61.4	63.7	64.6	65.9	68.0
160	61.7	65.1	65.7	66.7	65.5	64.5	66.0	68.7	72.2
200	63.8	65.9	65.9	68.1	66.5	66.9	70.2	71.3	73.2
250	64.8	67.1	68.1	68.0	69.5	69.9	70.4	74.3	75.8
315	67.8	70.1	70.1	70.6	70.6	70.5	72.4	74.7	79.3
400	70.8	71.5	71.3	71.8	71.7	71.9	75.2	77.5	79.1
500	71.7	71.6	71.3	72.1	72.5	74.8	77.5	80.0	82.2
630	70.5	71.8	72.2	74.2	75.0	76.4	78.3	80.9	84.8
800	75.9	73.7	74.5	75.9	76.4	77.4	79.4	82.2	85.3
1000	74.2	74.8	75.5	77.4	77.8	78.4	79.3	82.5	85.6
1250	73.9	74.6	75.2	77.0	78.4	79.3	80.0	82.7	85.1
1600	74.6	75.6	75.9	77.7	79.1	80.0	81.1	83.1	84.8
2000	75.6	76.4	77.4	78.9	79.8	80.6	82.0	83.4	84.3
2500	75.5	76.2	76.5	78.7	79.8	80.6	81.6	83.2	83.3
3150	75.6	76.3	77.2	78.6	79.6	80.3	81.5	82.7	82.3
4000	75.8	76.1	76.6	78.5	79.6	80.5	80.9	82.3	81.2
5000	76.0	76.7	77.0	78.9	79.7	80.5	80.8	81.4	79.9
6300	75.4	76.0	76.6	78.3	79.0	79.8	80.1	80.1	78.4
8000	75.4	75.4	76.3	77.9	79.1	79.8	79.5	79.4	77.2
10000	74.7	75.4	75.9	77.1	78.0	78.6	78.6	78.5	75.8
12500	73.9	74.5	75.1	76.9	77.6	77.9	77.5	76.9	74.2
16000	73.6	74.2	74.5	76.0	76.9	77.2	76.6	75.7	72.7
20000	72.4	73.2	73.7	75.0	75.9	76.1	75.5	74.1	70.9
25000	71.9	72.7	72.9	74.4	75.5	75.3	74.3	73.3	69.9
31500	71.2	72.1	72.4	73.8	74.7	74.8	73.7	72.2	68.7
40000	71.3	71.8	72.3	73.4	74.1	74.2	72.6	71.1	67.8
50000	71.3	71.5	72.2	73.7	73.7	74.0	72.6	70.6	67.4
63000	71.8	71.9	72.6	73.4	73.7	73.8	72.3	70.2	67.6
80000	70.9	71.0	72.0	73.0	73.6	73.4	71.9	70.0	66.4
TSPL	87.8	88.3	88.9	90.4	91.3	92.0	92.6	93.9	95.0
SSPL	87.6	88.1	88.6	90.2	91.1	91.8	92.4	93.7	94.7

V_∞ =	98	fps
T_a =	53	°F
RH_a =	68	%
P_a =	14.52	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=98 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3651 CONDITION 3651

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.31	0.0		1.31	0.0	THRUST,IDL.	LB		53.3	0.0	N	236.9	0.0
TEMP	(R)		713.0	0.0	(K)	396.1	0.0	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.060	0.0	KG/M3	0.968	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		794.0	0.0	M/S	242.0	0.0	W (MODEL)	LB/S		2.2	0.0	KG/S	1.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.2	0.4	63.8	59.6	55.2	49.9	61.8	66.3	62.3	79.3
.125	61.0	62.9	64.8	64.3	61.4	63.7	64.6	65.9	68.0	82.4
.160	61.7	65.1	65.7	66.7	65.5	64.5	66.0	68.7	72.2	84.7
.200	63.8	65.9	65.9	68.1	66.5	66.9	70.2	71.3	73.2	86.5
.250	64.8	67.1	68.1	68.0	69.5	69.9	70.4	74.3	75.8	88.5
.315	67.8	70.1	70.1	70.6	70.6	70.5	72.4	74.7	79.3	90.3
.400	70.8	71.5	71.3	71.8	71.7	71.9	75.2	77.5	79.1	91.9
.500	71.7	71.6	71.3	72.1	72.5	74.8	77.5	80.0	82.2	93.8
.630	70.5	71.8	72.2	74.2	75.0	76.4	78.3	80.9	84.8	95.2
.800	75.9	73.7	74.5	75.9	76.4	77.4	79.4	82.2	85.3	96.5
1.00	74.2	74.8	75.5	77.4	77.8	78.4	79.3	82.5	85.6	97.1
1.25	73.9	74.6	75.2	77.0	78.4	79.3	80.0	82.7	85.1	97.3
1.60	74.6	75.6	75.9	77.7	79.1	80.0	81.1	83.1	84.8	97.8
2.00	75.6	76.4	77.4	78.9	79.8	80.6	82.0	83.4	84.3	98.4
2.50	75.5	76.2	76.5	78.7	79.8	80.8	81.6	83.2	83.3	98.2
3.15	75.6	76.3	77.2	78.6	79.6	80.3	81.5	82.7	82.3	97.9
4.00	75.8	76.1	76.6	78.5	79.6	80.5	80.9	82.3	81.2	97.6
5.00	76.0	76.7	77.0	78.9	79.7	80.5	80.8	81.4	79.9	97.6
6.30	75.4	76.0	76.6	78.3	79.0	79.8	80.1	80.1	78.4	96.8
8.00	75.4	75.4	76.3	77.9	79.1	79.8	79.5	79.4	77.2	96.4
10.0	74.7	75.4	75.9	77.1	78.0	78.6	78.6	78.5	75.8	95.6
12.5	73.9	74.5	75.1	76.9	77.6	77.9	77.5	76.9	74.2	94.8
16.0	73.6	74.2	74.5	76.0	76.9	77.2	76.6	75.7	72.7	94.0
20.0	72.4	73.2	73.7	75.0	75.9	76.1	75.5	74.1	70.9	93.0
25.0	71.9	72.7	72.9	74.4	75.5	75.3	74.3	73.3	69.9	92.2
31.5	71.2	72.1	72.4	73.8	74.7	74.8	73.7	72.2	68.7	91.6
40.0	71.3	71.8	72.3	73.4	74.1	74.2	72.8	71.1	67.8	91.1
50.0	71.3	71.5	72.2	73.7	73.7	74.0	72.6	70.8	67.4	90.9
63.0	71.8	71.9	72.6	73.4	73.7	73.8	72.3	70.2	67.6	90.9
80.0	70.9	71.0	72.0	73.0	73.6	73.4	71.9	70.0	66.4	90.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	87.8	88.3	88.9	90.4	91.3	92.0	92.6	93.9	95.0	

OAPWL = 109.6

V_∞ =	98	fps
T_a =	53	°F
RH_a =	68	%
P_a =	14.52	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XARF	0	3656	3656

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	89.0	81.9	83.4	82.9	93.1	90.3	93.3	85.6	92.5
125	81.5	85.8	87.5	88.7	85.4	84.4	93.2	89.2	105.6
160	79.0	85.5	84.3	85.4	84.2	84.7	92.1	88.6	91.6
200	81.1	86.0	85.7	86.8	83.6	86.5	86.7	89.4	106.3
250	84.2	88.0	86.6	87.6	88.9	87.8	86.7	93.6	107.0
315	87.7	90.3	89.0	88.6	87.4	88.8	87.4	94.9	113.0
400	87.8	89.1	87.8	88.5	89.8	89.9	93.6	95.5	100.1
500	85.1	88.5	87.8	89.3	90.6	92.8	94.1	100.5	106.2
630	90.3	91.2	89.6	91.0	92.0	94.3	96.9	101.8	108.0
800	92.5	91.7	91.0	93.2	93.6	95.3	98.9	105.2	111.0
1000	91.0	94.8	94.5	95.2	94.9	96.9	100.0	106.6	111.1
1250	92.9	95.3	94.5	95.4	97.4	99.6	102.4	108.7	111.7
1600	95.7	97.4	98.0	99.9	100.9	101.7	103.4	109.5	112.7
2000	100.4	103.0	104.6	106.1	108.3	108.5	106.4	110.4	113.0
2500	103.1	101.6	100.4	101.7	102.8	102.9	105.4	110.2	111.9
3150	113.4	111.3	107.1	105.3	104.1	104.4	106.2	109.8	111.1
4000	118.3	119.8	116.0	109.3	106.9	106.7	106.8	109.6	109.6
5000	112.7	113.9	114.6	113.8	109.5	107.2	107.4	108.7	108.2
6300	112.2	111.0	111.5	114.5	112.6	109.5	108.3	106.1	106.7
8000	112.5	111.5	110.1	111.4	113.8	112.5	109.9	108.6	105.4
10000	111.0	110.7	110.6	110.1	111.6	114.1	111.6	108.9	104.7
12500	110.5	110.5	109.1	110.5	110.3	114.4	113.1	109.0	104.3
16000	110.3	110.0	109.4	109.5	109.9	111.8	112.9	108.6	103.6
20000	109.3	109.4	108.6	109.0	108.9	109.4	110.0	106.9	102.0
25000	108.5	109.0	108.5	108.6	109.0	108.6	107.7	105.6	101.0
31500	107.7	108.2	108.2	108.5	108.4	107.9	106.4	103.7	99.6
40000	107.3	107.9	108.2	108.6	108.4	107.6	105.5	102.8	99.0
50000	106.9	107.3	107.8	109.1	108.4	107.7	105.5	102.5	98.8
63000	106.1	107.1	107.8	108.6	108.9	108.1	105.5	103.0	99.1
80000	106.1	106.9	107.8	108.8	108.9	108.3	106.2	103.5	100.0
TSPL	123.4	123.9	122.5	122.3	122.0	122.2	121.3	121.2	122.8
SSPL	123.4	123.8	122.5	122.3	122.0	122.2	121.3	121.1	121.9

V_∞ =	337	fps
T_a =	50	°F
RH_a =	76	%
P_a =	13.67	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3656 3656

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	125.3	125.1	123.0	122.1	121.2	120.8	119.3	119.4	122.6
SSPL	125.3	125.0	123.0	122.1	121.2	120.8	119.3	119.3	121.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	125.8	125.2	122.8	121.5	120.1	119.4	117.6	117.4	120.4
SSPL	125.8	125.2	122.8	121.5	120.1	119.4	117.6	117.4	119.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/21/76		-00 000000	XARF 0	3656 3656

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND. CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	91.4	82.7	83.3	83.3	91.3	87.7	89.4	86.0	82.5
125	83.8	87.4	87.9	87.3	83.4	81.3	87.6	87.2	87.5
160	81.4	86.9	84.4	84.3	82.3	81.6	86.9	87.2	85.2
200	83.4	87.4	85.9	85.4	81.7	83.6	83.1	82.7	88.0
250	86.5	89.3	86.6	86.8	87.0	85.2	82.9	84.5	92.0
315	90.0	91.5	88.8	87.4	85.5	86.1	83.8	85.0	93.9
400	90.2	90.2	87.8	87.7	87.9	87.0	88.9	90.4	92.5
500	87.5	89.8	88.0	88.6	88.8	89.8	89.9	92.5	97.9
630	92.7	92.3	89.7	90.2	90.1	91.2	92.4	94.7	99.2
800	94.9	92.7	91.3	92.4	91.9	92.3	94.0	97.4	102.6
1000	93.4	96.1	94.7	94.2	93.8	93.8	95.2	98.7	103.9
1250	95.3	96.5	94.5	94.7	95.5	96.6	97.7	101.1	105.8
1600	98.0	98.7	98.4	99.2	99.0	98.9	99.0	101.9	106.6
2000	102.8	104.5	105.0	105.5	106.5	105.9	103.2	103.8	107.4
2500	105.5	102.5	100.5	101.0	100.9	100.1	100.9	103.6	107.1
3150	115.7	111.8	106.4	103.9	102.1	101.5	102.0	103.8	106.5
4000	120.6	120.7	114.4	107.3	104.9	104.0	103.0	104.0	106.1
5000	115.1	115.2	114.6	112.1	107.4	104.6	103.7	104.0	105.1
6300	114.6	112.1	112.1	113.6	110.8	107.1	105.0	104.3	104.3
8000	114.9	112.5	110.2	110.9	111.9	110.1	107.2	105.6	104.8
10000	113.4	111.8	110.5	109.2	110.0	111.3	109.0	106.7	104.6
12500	112.8	111.5	109.2	109.5	108.4	111.4	110.3	107.7	104.6
16000	112.7	111.1	109.4	108.5	108.0	108.9	109.4	107.7	104.2
20000	111.7	110.5	108.6	108.0	107.0	106.6	106.5	105.2	102.5
25000	110.8	110.1	108.4	107.6	107.0	105.9	104.5	103.2	101.3
31500	110.1	109.4	108.2	107.5	106.4	105.3	103.4	101.5	99.4
40000	109.7	109.2	108.3	107.6	106.5	105.1	102.7	100.6	98.6
50000	109.3	108.5	108.1	108.1	106.5	105.2	102.8	100.5	98.3
63000	108.5	108.3	108.0	107.6	106.9	105.5	102.9	100.7	98.8
80000	108.5	108.2	108.1	107.9	107.0	105.7	103.4	101.3	99.3
TSPL	125.8	124.9	122.3	121.2	120.1	119.5	118.1	117.1	117.7
SSPL	125.8	124.9	122.3	121.2	120.1	119.5	118.1	117.1	117.6

V_∞ =	337	fps
T_a =	50	°F
RH_a =	76	%
P_a =	13.67	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=337 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3656 CONDITION 3656

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			3.21	0.0		3.21	0.0	THRUST,IDL	LB	151.9	0.0	N	675.8	0.0
TEMP	(R)		712.0	0.0	(K)	395.6	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.078	0.0	KG/M3	1.245	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1556.0	0.0	M/S	474.9	0.0	W (MODEL)	LB/S	3.1	0.0	KG/S	1.4	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.4	82.7	83.3	83.3	91.3	87.7	89.4	86.0	82.5	105.9
.125	83.8	87.4	87.9	87.3	83.4	81.3	87.6	87.2	87.5	104.7
.160	81.4	86.9	84.4	84.3	82.3	81.6	86.9	87.2	85.2	103.3
.200	83.4	87.4	85.9	85.4	81.7	83.6	83.1	82.7	88.0	103.2
.250	86.5	89.3	86.6	86.8	87.0	85.2	82.9	84.5	92.0	105.3
.315	90.0	91.5	88.8	87.4	85.5	86.1	83.6	85.0	93.9	106.8
.400	90.2	90.2	87.8	87.7	87.9	87.0	88.9	90.4	92.5	107.3
.500	87.5	89.8	88.0	88.6	88.8	89.8	89.9	92.5	97.9	108.7
.630	92.7	92.3	89.7	90.2	90.1	91.2	92.4	94.7	99.2	110.7
.800	94.9	92.7	91.3	92.4	91.9	92.3	94.0	97.4	102.6	112.8
1.00	93.4	96.1	94.7	94.2	93.0	93.8	95.2	98.7	103.9	114.4
1.25	95.3	96.5	94.5	94.7	95.5	96.6	97.7	101.1	105.8	116.1
1.60	98.0	98.7	98.4	99.2	99.0	98.9	99.0	101.9	106.6	118.2
2.00	102.8	104.5	105.0	105.5	106.5	105.9	103.2	103.8	107.4	123.4
2.50	105.5	102.5	100.5	101.0	100.9	100.1	100.9	103.6	107.1	120.6
3.15	115.7	111.8	106.4	103.9	102.1	101.5	102.0	103.8	106.5	126.5
4.00	120.6	120.7	114.4	107.3	104.9	104.0	103.0	104.0	106.1	133.2
5.00	115.1	115.2	114.6	112.1	107.4	104.6	103.7	104.0	105.1	130.1
6.30	114.6	112.1	112.1	113.6	110.8	107.1	105.0	104.3	104.3	129.4
8.00	114.9	112.5	110.2	110.9	111.9	110.1	107.2	105.6	104.8	129.2
10.0	113.4	111.8	110.5	109.2	110.0	111.3	109.0	106.7	104.6	128.7
12.5	112.8	111.5	109.2	109.5	106.4	111.4	110.3	107.7	104.6	128.4
16.0	112.7	111.1	109.4	108.5	108.0	108.9	109.4	107.7	104.2	127.8
20.0	111.7	110.5	108.6	108.0	107.0	106.6	106.5	105.2	102.5	126.5
25.0	110.8	110.1	106.4	107.6	107.0	105.9	104.5	103.2	101.3	125.9
31.5	110.1	109.4	108.2	107.5	106.4	105.3	103.4	101.5	99.4	125.4
40.0	109.7	109.2	108.3	107.6	106.5	105.1	102.7	100.6	98.6	125.3
50.0	109.3	108.5	108.1	108.1	106.5	105.2	102.8	100.5	98.3	125.1
63.0	108.5	108.3	108.0	107.6	106.9	105.5	102.9	100.7	98.8	125.0
80.0	108.5	108.2	108.1	107.9	107.0	105.7	103.4	101.3	99.3	125.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	125.8	124.9	122.3	121.2	120.1	119.5	118.1	117.1	117.7	

V_∞ =	337	fps
T_a =	50	°F
RH_a =	76	%
P_a =	13.67	psia

OAPWL = 140.1

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/21/76 -00 G00000 XAKF 0 3657 3657

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.6	87.0	89.8	92.7	92.4	90.6	93.8	96.3	108.2
125	75.1	77.7	81.5	82.0	90.2	76.5	92.5	95.4	110.6
160	72.5	77.5	76.9	78.7	89.2	76.0	91.5	94.4	104.1
200	84.9	77.1	78.9	80.9	88.1	82.2	90.7	76.6	106.1
250	77.0	81.3	80.9	81.7	79.0	82.6	88.6	85.2	106.5
315	81.9	84.3	83.9	83.5	78.9	83.6	76.4	88.6	112.8
400	82.2	82.4	81.9	82.9	82.4	84.4	88.1	90.1	109.1
500	79.4	81.2	82.0	83.6	84.5	87.0	89.3	95.3	101.0
630	84.6	84.7	83.8	85.0	86.0	88.3	91.8	96.8	102.4
800	86.9	85.4	85.4	87.6	88.1	89.5	93.6	99.5	104.9
1000	85.5	88.8	89.0	89.8	89.6	91.1	94.4	100.8	104.6
1250	87.1	89.3	88.7	89.9	91.8	93.6	96.4	102.4	105.1
1600	89.6	90.5	91.3	93.3	93.8	95.0	97.4	102.9	105.6
2000	90.1	91.6	93.2	95.1	95.0	95.9	99.0	103.0	105.1
2500	91.8	92.7	94.4	95.1	96.1	97.1	99.3	102.9	103.9
3150	93.4	93.2	93.9	95.1	95.7	97.2	99.7	102.3	102.4
4000	102.0	99.7	97.4	97.6	98.8	99.1	100.4	102.8	102.0
5000	111.2	108.1	103.6	101.9	101.6	101.2	102.2	102.5	101.5
6300	111.9	111.0	107.5	104.5	101.5	100.9	101.0	101.4	99.5
8000	109.5	109.7	110.3	108.7	104.9	102.8	101.6	101.5	98.1
10000	107.0	106.3	107.3	109.1	107.7	105.0	102.9	101.3	97.3
12500	107.0	106.4	104.4	105.7	108.2	107.7	104.7	101.4	97.2
16000	106.3	105.8	105.2	104.7	105.6	108.2	106.1	101.8	96.9
20000	105.2	105.0	104.0	104.4	104.1	105.8	105.7	101.6	95.9
25000	104.7	104.6	103.8	103.8	104.3	103.5	103.3	100.9	95.4
31500	103.9	103.9	103.5	103.6	103.4	102.8	101.0	98.4	95.6
40000	103.6	103.7	103.5	103.6	103.2	102.2	99.9	97.1	92.9
50000	102.9	103.2	103.3	104.0	103.3	102.3	99.8	96.7	92.4
63000	102.2	102.7	103.3	103.5	103.8	102.5	99.6	97.1	92.5
80000	101.8	102.4	103.0	103.6	103.7	102.7	100.2	97.4	93.4
TSPL	118.5	117.7	116.8	116.6	116.2	115.8	114.8	114.7	119.4
SSPL	118.5	117.7	116.8	116.6	116.1	115.8	114.7	114.5	114.9

V_∞ =	336	fps
T_a =	49	°F
RH_a =	78	%
P_a =	13.67	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XAREF	0	3657	3657

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	120.3	118.9	117.3	116.5	115.3	114.4	112.9	112.9	119.2
SSPL	120.3	118.9	117.3	116.5	115.3	114.4	112.7	112.7	114.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	120.9	119.1	117.1	115.8	114.3	113.0	111.1	110.9	117.0
SSPL	120.8	119.1	117.0	115.8	114.2	113.0	111.0	110.8	112.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3657 3657

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	91.0	88.3	90.6	91.9	90.4	87.9	89.2	90.3	94.3
125	77.5	79.4	81.9	82.2	88.1	74.1	84.1	90.0	93.8
160	74.9	79.0	77.1	79.4	87.2	73.6	83.3	89.4	92.1
200	87.3	77.9	79.4	81.1	86.2	79.5	85.7	79.6	75.9
250	79.4	82.7	81.0	80.3	77.1	79.3	83.8	82.3	84.1
315	84.3	85.5	83.8	81.7	77.0	80.9	74.1	75.0	88.6
400	84.6	83.5	82.1	81.8	80.5	81.3	83.5	83.9	89.0
500	81.8	82.6	82.4	82.8	82.7	84.0	84.8	87.6	92.7
630	86.9	85.8	85.9	84.2	84.1	85.2	87.0	89.8	94.1
800	89.3	86.5	85.7	86.8	86.2	86.4	88.6	92.0	96.8
1000	87.8	90.2	89.1	88.8	87.7	88.1	89.6	93.1	98.0
1250	89.5	90.5	88.8	89.2	89.9	90.8	91.8	94.9	99.4
1600	91.9	91.8	91.7	92.5	91.9	92.0	92.9	95.8	99.9
2000	92.5	93.0	93.7	94.2	93.0	92.9	94.4	96.8	99.9
2500	94.2	94.1	94.6	94.2	94.2	94.2	95.0	97.6	99.6
3150	95.8	94.4	94.2	94.2	93.8	94.3	95.4	97.0	98.8
4000	104.3	100.4	97.2	96.8	96.9	96.2	96.4	97.6	99.2
5000	113.6	108.5	102.9	100.6	99.6	98.4	98.3	98.5	98.8
6300	114.3	111.7	106.7	102.8	99.5	98.2	97.4	97.4	97.6
8000	111.9	111.0	110.1	107.0	102.9	100.3	98.4	97.8	97.5
10000	109.4	107.5	107.7	108.1	105.7	102.6	100.0	98.4	97.1
12500	109.3	107.3	104.4	105.1	106.3	105.1	102.2	99.4	97.1
16000	108.7	106.9	105.0	103.7	103.7	105.4	103.5	100.6	97.4
20000	107.6	106.0	104.0	103.3	102.2	102.9	102.5	100.5	97.1
25000	107.0	105.6	103.7	102.8	102.3	100.8	99.9	98.7	96.5
31500	106.3	105.0	103.5	102.5	101.4	100.2	98.1	96.2	94.1
40000	106.0	104.9	103.5	102.6	101.3	99.7	97.2	95.0	92.9
50000	105.3	104.4	103.5	103.0	101.4	99.8	97.2	94.7	92.4
63000	104.6	104.0	103.4	102.6	101.8	100.1	97.0	94.8	92.8
80000	104.2	103.6	103.2	102.8	101.7	100.2	97.6	95.2	93.1
TSPL	120.9	118.7	116.7	115.5	114.2	113.2	111.6	110.7	111.2
SSPL	120.9	118.7	116.6	115.5	114.2	113.2	111.6	110.6	110.9

V_∞ =	336	fps
T_a =	49	°F
RH_a =	78	%
P_a =	13.67	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=336 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3657 CONDITION 3657

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.52	0.0		2.52	0.0	THRUST,IDL	LB	110.7	0.0	N	492.2	0.0
TEMP	(R)		716.0	0.0	(K)	397.8	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.072	0.0	KG/M3	1.158	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1414.0	0.0	M/S	431.0	0.0	W (MODEL)	LB/S	2.5	0.0	KG/S	1.1	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.0	88.3	90.6	91.9	90.4	87.9	89.2	90.3	94.3	108.7
.125	77.5	79.4	81.9	82.2	88.1	74.1	84.1	90.0	93.8	103.9
.160	74.9	79.0	77.1	79.4	87.2	73.6	83.3	89.4	92.1	102.7
.200	87.3	77.9	79.4	81.1	86.2	79.5	85.7	79.6	75.9	101.2
.250	79.4	82.7	81.0	80.3	77.1	79.3	83.6	82.3	84.1	99.6
.315	84.3	85.5	83.8	81.7	77.0	80.9	74.1	75.0	86.6	100.9
.400	84.6	83.5	82.1	81.8	80.5	81.3	83.5	83.9	89.0	101.5
.500	81.8	82.6	82.4	82.8	82.7	84.0	84.8	87.6	92.7	103.1
.630	86.9	85.8	83.9	84.2	84.1	85.2	87.0	89.8	94.1	105.1
.800	89.3	86.5	85.7	86.8	86.2	86.4	88.6	92.0	96.8	107.2
1.00	87.8	90.2	89.1	88.8	87.7	88.1	89.6	93.1	98.0	108.8
1.25	89.5	90.5	88.8	89.2	89.9	90.8	91.8	94.9	99.4	110.1
1.60	91.9	91.8	91.7	92.5	91.9	92.0	92.9	95.8	99.9	111.6
2.00	92.5	93.0	93.7	94.2	93.0	92.9	94.4	96.8	99.9	112.7
2.50	94.2	94.1	94.6	94.2	94.2	94.2	95.0	97.0	99.6	113.3
3.15	95.8	94.4	94.2	94.2	93.8	94.3	95.4	97.0	98.8	113.4
4.00	104.3	100.4	97.2	96.8	96.9	96.2	96.4	97.6	99.2	117.0
5.00	113.6	108.5	102.9	100.6	99.6	98.4	98.3	98.5	98.8	123.6
6.30	114.3	111.7	106.7	102.8	99.5	98.2	97.4	97.4	97.6	125.5
8.00	111.9	111.0	110.1	107.0	102.9	100.3	98.4	97.8	97.5	125.8
10.0	109.4	107.5	107.7	108.1	105.7	102.6	100.0	98.4	97.1	124.4
12.5	109.3	107.3	104.4	105.1	106.3	105.1	102.2	99.4	97.1	123.7
16.0	108.7	106.9	105.0	103.7	103.7	105.4	103.5	100.6	97.4	123.2
20.0	107.6	106.0	104.0	103.3	102.2	102.9	102.5	100.5	97.1	122.1
25.0	107.0	105.6	103.7	102.8	102.3	100.8	99.9	98.7	96.5	121.4
31.5	106.3	105.0	103.5	102.5	101.4	100.2	98.1	96.2	94.1	120.7
40.0	106.0	104.9	103.5	102.6	101.3	99.7	97.2	95.0	92.9	120.6
50.0	105.3	104.4	103.5	103.0	101.4	99.8	97.2	94.7	92.4	120.4
63.0	104.6	104.0	103.4	102.6	101.8	100.1	97.0	94.8	92.8	120.2
80.0	104.2	103.6	103.2	102.8	101.7	100.2	97.6	95.2	93.1	120.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.9	118.7	116.7	115.5	114.2	113.2	111.6	110.7	111.2	OAPWL = 134.3

V_∞ =	336	fps
T_a =	49	°F
RH_a =	78	%
P_a =	13.67	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3658 3658

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.5	86.8	90.0	92.7	92.3	90.6	92.6	96.5	95.5
125	85.2	85.8	71.6	88.9	89.5	73.5	91.1	95.3	104.7
160	83.9	84.9	84.4	86.1	89.0	77.8	90.2	94.4	104.8
200	84.7	85.3	83.9	69.2	87.8	78.5	88.5	92.9	106.7
250	70.1	73.2	72.2	67.2	86.9	79.1	85.9	91.4	107.4
315	74.6	76.3	77.7	77.1	85.4	78.1	85.3	82.8	113.1
400	76.1	76.0	76.7	77.7	73.3	79.1	86.4	85.0	108.9
500	73.4	75.1	76.8	78.4	78.7	81.9	75.6	90.4	94.7
630	78.9	78.8	78.9	80.1	80.5	83.5	85.3	91.8	96.5
800	81.9	79.7	80.5	82.6	83.1	84.9	87.9	94.0	98.6
1000	80.4	82.8	83.4	84.6	84.7	86.4	88.7	94.6	98.0
1250	81.6	83.1	83.2	84.8	86.6	86.6	90.7	96.2	98.1
1600	83.8	84.6	85.5	87.4	88.5	89.7	91.9	96.2	98.1
2000	84.0	85.3	87.1	89.1	89.6	90.6	93.4	96.3	97.3
2500	84.7	85.4	85.9	88.2	89.8	91.1	93.7	96.2	95.8
3150	84.7	85.8	87.1	88.7	89.8	91.3	93.8	95.7	94.6
4000	84.9	85.8	86.4	88.4	90.5	92.2	93.9	95.5	93.3
5000	85.4	86.4	86.9	89.5	90.7	92.6	94.3	94.8	92.3
6300	85.6	86.2	87.1	89.4	90.9	92.4	94.1	93.8	91.2
8000	88.5	87.3	88.1	90.0	91.4	93.1	93.8	93.6	90.3
10000	93.5	91.2	89.7	90.7	91.5	92.6	93.4	92.6	89.2
12500	95.9	94.3	91.6	91.0	91.2	92.0	92.4	91.1	87.7
16000	93.5	94.1	93.4	92.7	91.6	91.6	91.7	89.7	86.2
20000	89.8	90.5	91.2	92.8	92.4	91.6	90.8	88.5	84.8
25000	89.6	89.3	88.9	90.7	92.6	92.1	90.7	88.6	83.9
31500	87.7	88.2	88.5	89.3	90.8	91.8	90.6	88.0	83.2
40000	86.4	87.1	87.6	88.8	89.8	90.3	89.5	87.0	83.0
50000	85.4	85.9	86.8	88.6	89.2	89.4	88.3	86.4	82.0
63000	84.4	85.4	86.5	88.0	89.0	89.2	87.8	86.1	82.2
80000	84.5	85.0	86.0	87.7	88.6	88.7	88.2	85.6	83.1
TSPL	102.4	102.1	101.9	103.3	104.3	104.5	105.9	107.9	117.0
SSPL	101.9	101.6	101.4	102.6	103.4	104.3	105.2	106.8	107.4

V_∞ =	336	fps
T_a =	49	°F
RH_a =	80	%
P_a =	13.67	psia

DECK LD DATE ENG MOD ENG NO STNO C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3658 3658

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	104.2	103.3	102.4	103.2	103.5	103.1	104.0	106.1	116.8
SSPL	103.7	102.8	101.9	102.5	102.6	102.9	103.2	105.0	107.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	104.7	103.4	102.2	102.5	102.4	101.7	102.2	104.2	114.6
SSPL	104.3	103.0	101.7	101.8	101.5	101.5	101.5	103.0	105.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/21/76 -00 000000 XARF 0 3658 3658

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.9	88.2	90.8	91.9	90.3	87.9	88.2	90.5	93.0
125	87.6	85.4	73.4	89.8	87.2	71.1	82.1	89.7	93.1
160	86.3	86.1	84.6	85.7	86.9	75.4	82.8	88.3	92.3
200	87.1	86.4	80.9	69.4	86.0	76.0	81.7	86.2	91.2
250	72.5	74.5	70.9	68.4	85.2	76.7	80.0	83.6	90.1
315	77.0	79.7	77.5	77.2	83.5	75.6	79.8	78.8	82.9
400	78.5	77.3	77.0	76.1	71.4	75.5	81.2	80.8	84.3
500	75.8	76.6	77.2	77.5	76.9	79.2	72.8	76.8	88.0
630	81.3	80.0	79.1	79.2	78.6	80.5	80.9	83.8	89.1
800	84.2	80.7	80.9	81.8	81.3	81.9	83.2	86.3	91.2
1000	82.7	84.2	83.7	83.7	82.8	83.5	84.2	87.1	91.7
1250	84.0	84.3	83.5	84.2	84.8	85.6	86.3	89.1	93.1
1600	86.2	85.9	85.9	86.7	86.6	86.8	87.5	89.8	93.0
2000	86.4	86.8	87.6	88.3	87.7	87.7	89.0	90.8	92.9
2500	87.1	86.6	86.4	87.6	88.0	86.1	89.3	91.0	92.7
3150	87.1	87.2	87.5	87.9	87.9	88.4	89.5	90.9	92.1
4000	87.3	87.0	86.8	87.9	88.7	89.2	89.9	91.0	91.7
5000	87.8	87.7	87.4	88.8	88.9	89.7	90.3	90.9	90.9
6300	87.9	87.5	87.6	88.8	89.0	89.5	90.2	90.4	89.8
8000	90.9	88.5	88.5	89.3	89.6	90.2	90.2	90.1	89.6
10000	95.9	92.0	89.7	89.8	89.6	89.8	89.7	89.5	88.6
12500	98.3	95.1	91.2	89.9	89.3	89.2	88.9	88.2	87.0
16000	95.8	95.2	93.2	91.5	89.7	88.9	88.3	87.2	85.6
20000	92.2	91.8	91.5	91.9	90.5	89.0	87.6	86.1	84.3
25000	92.0	90.4	89.2	90.1	90.9	89.5	87.7	86.1	84.3
31500	90.0	89.4	88.6	88.5	88.9	89.1	87.6	85.9	83.7
40000	88.8	88.4	87.9	88.0	87.9	87.6	86.4	84.8	82.8
50000	87.7	87.1	87.2	87.6	87.3	86.7	85.2	83.9	82.2
63000	86.8	86.8	86.8	87.2	87.1	86.5	84.8	83.4	81.9
80000	86.9	86.3	86.4	86.9	86.7	86.0	85.0	83.4	81.6
TSPL	104.7	103.2	102.1	102.5	102.4	101.7	101.8	102.8	104.7
SSPL	104.3	102.7	101.6	101.8	101.5	101.5	101.4	101.9	103.3

V_∞ =	336	fps
T_a =	49	°F
RH_a =	80	%
P_a =	13.67	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=336 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3658 CONDITION 3658

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			2.02	0.0		2.02	0.0	THRUST,IDL	LB	79.3	0.0	N	352.9	0.0
TEMP	(R)		711.0	0.0	(K)	395.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3		0.068	0.0	KG/M3	1.096	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1246.0	0.0	M/S	379.8	0.0	W (MODEL)	LB/S	2.1	0.0	KG/S	0.9	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.9	88.2	90.8	91.9	90.3	87.9	88.2	90.5	93.0	108.5
.125	87.6	85.4	73.4	89.8	87.2	71.1	82.1	89.7	93.1	105.2
.160	86.3	86.1	84.6	85.7	86.9	75.4	82.8	88.3	92.3	104.3
.200	87.1	86.4	80.9	69.4	86.0	76.0	81.7	86.2	91.2	102.8
.250	72.5	74.5	70.9	68.4	85.2	76.7	80.0	83.6	90.1	99.5
.315	77.0	79.7	77.5	77.2	83.5	75.6	79.8	78.8	82.9	98.0
.400	78.5	77.3	77.0	76.1	71.4	75.5	61.2	80.8	84.3	96.6
.500	75.8	76.6	77.2	77.5	76.9	79.2	72.8	76.8	88.0	96.9
.630	81.3	80.0	79.1	79.2	78.6	80.5	80.9	83.8	89.1	99.7
.800	84.2	80.7	80.9	81.8	81.3	81.9	83.2	86.3	91.2	101.8
1.00	82.7	84.2	83.7	83.7	82.8	83.5	84.2	87.1	91.7	103.1
1.25	84.0	84.3	83.5	84.2	84.8	85.6	86.3	89.1	93.1	104.5
1.60	86.2	85.9	85.9	86.7	86.6	86.8	87.5	89.8	93.0	105.8
2.00	86.4	86.8	87.6	88.3	87.7	87.7	89.0	90.8	92.9	106.8
2.50	87.1	86.6	86.4	87.6	88.0	88.1	89.3	91.0	92.7	106.7
3.15	87.1	87.2	87.5	87.9	87.9	88.4	89.5	90.9	92.1	106.9
4.00	87.3	87.0	86.8	87.9	88.7	89.2	89.9	91.0	91.7	107.1
5.00	87.8	87.7	87.4	88.8	88.9	89.7	90.3	90.9	90.9	107.4
6.30	87.9	87.5	87.6	88.8	89.0	89.5	90.2	90.4	89.8	107.3
8.00	90.9	88.5	88.5	89.3	89.6	90.2	90.2	90.1	89.6	107.9
10.0	95.9	92.0	89.7	89.8	89.6	89.8	89.7	89.5	88.6	109.2
12.5	98.3	95.1	91.2	89.9	89.3	89.2	88.9	88.2	87.0	110.4
16.0	95.8	95.2	93.2	91.5	89.7	88.9	88.3	87.2	85.6	110.3
20.0	92.2	91.8	91.5	91.9	90.5	89.0	87.6	86.1	84.3	108.8
25.0	92.0	90.4	89.2	90.1	90.9	89.5	87.7	86.1	84.3	107.9
31.5	90.0	89.4	88.6	88.5	88.9	89.1	87.6	85.9	83.7	106.8
40.0	88.8	88.4	87.9	88.0	87.9	87.6	86.4	84.8	82.8	105.8
50.0	87.7	87.1	87.2	87.8	87.3	86.7	85.2	83.9	82.2	105.0
63.0	86.8	86.8	86.8	87.2	87.1	86.5	84.8	83.4	81.9	104.6
80.0	86.9	86.3	86.4	86.9	86.7	86.0	85.0	83.4	81.6	104.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	104.7	103.2	102.1	102.5	102.4	101.7	101.8	102.8	104.8	

V_∞ =	336	fps
T_a =	49	°F
RH_a =	80	%
P_a =	13.67	psia

OAPWL = 121.0

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XARF	0	3659	3659

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.6	87.0	89.9	93.0	92.7	90.4	87.1	85.6	100.5
125	85.3	85.8	87.9	72.6	90.3	89.5	86.4	85.4	109.5
160	83.9	84.8	84.4	86.3	89.3	89.0	85.3	84.3	88.6
200	84.8	85.4	72.4	74.0	88.4	87.5	82.2	82.7	106.8
250	71.9	70.1	72.2	67.2	86.9	69.2	83.1	91.6	107.3
315	70.9	74.8	74.4	74.0	65.7	84.5	78.7	83.5	112.9
400	73.3	72.6	73.8	75.6	84.7	76.0	83.6	84.2	109.2
500	70.7	72.1	74.2	75.6	75.3	79.1	83.9	88.2	93.0
630	75.5	75.9	75.9	77.4	78.8	80.6	85.8	89.0	93.3
800	78.7	77.1	77.6	80.0	80.8	82.1	86.9	91.1	95.4
1000	77.2	79.9	80.3	82.0	82.2	83.6	87.2	91.3	94.6
1250	78.2	80.1	80.2	82.0	84.1	85.7	88.6	92.4	94.3
1600	80.4	81.2	82.1	84.2	85.5	86.7	89.2	92.3	93.9
2000	80.8	82.3	83.8	85.9	86.7	87.7	90.5	92.3	93.2
2500	81.4	82.3	82.7	85.0	86.7	88.2	90.8	92.3	91.9
3150	81.6	82.8	84.0	85.8	86.8	86.6	90.7	92.6	90.9
4000	81.9	82.5	83.4	85.3	87.7	89.2	90.8	91.7	89.4
5000	82.3	83.3	83.9	86.4	87.9	89.5	91.3	90.9	88.7
6300	82.1	82.9	83.7	86.2	87.9	89.4	90.8	89.9	87.5
8000	82.5	82.7	83.9	86.2	88.1	89.6	90.4	89.5	86.1
10000	82.0	82.8	83.6	85.6	87.6	88.7	90.1	88.4	84.3
12500	81.3	82.4	83.2	85.4	87.1	88.4	88.3	87.0	83.2
16000	81.5	82.3	83.0	85.0	86.8	87.7	87.9	85.6	82.0
20000	80.7	81.5	82.3	84.2	85.9	86.8	86.9	84.4	79.9
25000	80.5	81.5	81.9	83.7	86.1	86.2	86.5	84.1	79.0
31500	80.2	80.9	81.9	83.4	85.4	85.8	85.0	83.2	78.4
40000	80.0	81.3	82.0	83.1	84.9	85.2	84.6	82.4	78.3
50000	80.2	80.6	82.0	83.7	84.6	85.0	84.5	82.1	77.7
63000	79.9	81.0	82.0	83.4	84.5	84.9	83.7	81.8	78.0
80000	80.5	81.0	82.0	83.6	84.6	84.7	84.2	81.9	77.6
TSPL	96.3	96.8	97.6	99.4	101.6	101.8	102.6	103.6	117.0
SSPL	94.2	95.0	95.9	97.8	99.4	100.6	102.1	103.0	103.8

V_∞ =	336	fps
T_a =	49	°F
RH_a =	80	%
P_a =	13.67	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/21/76		-00 000000	XARF	0	3659	3659

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	98.1	98.0	98.2	99.2	100.8	100.4	100.6	101.8	116.8
SSPL	96.0	96.2	96.4	97.7	98.6	99.2	100.1	101.2	103.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	98.7	98.1	97.9	98.6	99.7	99.0	98.9	99.9	114.6
SSPL	96.5	96.4	96.1	97.0	97.5	97.8	96.4	99.2	101.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/21/76 -00 000000 XARF 0 3659 3659

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	91.0	88.3	90.7	92.2	90.7	88.0	84.5	81.2	83.8
125	87.7	87.3	85.1	72.5	88.7	87.0	83.8	80.1	84.8
160	86.3	86.0	84.7	85.9	87.4	86.5	82.9	80.4	81.2
200	87.2	85.2	71.4	75.1	86.7	85.1	80.0	76.2	82.2
250	74.3	71.4	71.2	66.5	85.0	67.2	74.8	82.7	90.4
315	73.2	76.2	74.2	74.5	84.0	82.2	76.4	74.0	83.8
400	75.7	73.8	74.1	76.1	82.8	73.6	77.6	78.8	85.8
500	73.0	73.6	74.7	74.6	73.5	75.9	78.9	81.8	85.4
630	77.9	77.1	76.1	76.6	76.9	77.5	80.7	83.3	86.1
800	81.1	78.2	78.1	79.3	79.0	79.1	81.9	84.8	88.2
1000	79.6	81.2	80.6	81.1	80.3	80.6	84.5	85.1	88.3
1250	80.6	81.4	80.5	81.4	82.3	82.8	84.1	86.3	89.2
1600	82.8	82.5	82.6	83.5	83.6	83.7	84.8	86.6	89.0
2000	83.2	83.7	84.3	85.2	84.8	84.8	86.1	87.5	88.9
2500	83.8	83.5	83.1	84.4	84.8	85.3	86.5	87.8	88.8
3150	84.0	84.1	84.5	85.0	84.9	85.6	86.6	87.6	88.3
4000	84.2	83.8	83.8	84.8	85.8	86.3	86.8	87.5	87.9
5000	84.7	84.6	84.4	85.8	86.0	86.6	87.3	87.5	87.0
6300	84.4	84.2	84.2	85.6	86.0	86.5	87.0	86.8	86.0
8000	84.8	84.0	84.4	85.6	86.3	86.7	86.8	86.4	85.5
10000	84.3	84.1	84.0	85.0	85.7	85.9	86.4	85.9	84.2
12500	83.7	83.6	83.6	84.6	85.3	85.6	85.0	84.1	82.8
16000	83.9	83.5	83.4	84.4	84.9	85.0	84.5	83.4	81.5
20000	83.0	82.8	82.7	83.6	84.0	84.0	83.6	82.3	80.1
25000	82.8	82.8	82.2	83.1	84.2	83.5	83.1	82.0	79.8
31500	82.6	82.2	82.2	82.8	83.5	83.1	81.8	80.6	78.9
40000	82.4	82.6	82.3	82.4	83.0	82.5	81.4	80.0	78.2
50000	82.6	81.9	82.4	82.9	82.7	82.3	81.3	79.9	77.9
63000	82.3	82.4	82.4	82.7	82.6	82.3	80.6	79.2	77.6
80000	82.9	82.2	82.3	82.8	82.7	82.0	80.9	79.6	77.6
TSPL	98.7	98.0	97.9	98.7	99.7	99.1	98.7	99.0	100.5
SSPL	96.5	96.3	96.3	97.2	97.5	97.7	98.1	98.7	99.5

V_∞ =	336	fps
T_a =	49	°F
RH_a =	80	%
P_a =	13.67	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID V1=336 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3659 CONDITION 3659

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.61	0.0		1.81	0.0	THRUST,IDL	LB	72.4	0.0	N	322.0	0.0
TEMP	(R)		710.0	0.0	(K)	394.4	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.066	0.0	KG/M3	1.065	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS		1154.0	0.0	M/S	351.7	0.0	W (MODEL)	LB/S	2.0	0.0	KG/S	0.9	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.0	88.3	90.7	92.2	90.7	88.0	84.5	81.2	83.8	107.7
.125	87.7	87.3	85.1	72.5	88.7	87.0	83.8	80.1	84.8	104.1
.160	86.3	86.0	84.7	85.9	87.4	86.5	82.9	80.4	81.2	103.8
.200	87.2	85.2	71.4	75.1	86.7	85.1	80.0	76.2	82.2	101.6
.250	74.3	71.4	71.2	68.5	85.0	67.2	74.8	82.7	90.4	98.8
.315	73.2	76.2	74.2	74.5	84.0	82.2	76.4	74.0	83.8	97.7
.400	75.7	73.8	74.1	76.1	82.8	73.6	77.6	78.8	83.8	96.6
.500	73.0	73.6	74.7	74.6	73.5	75.9	78.9	81.8	85.4	95.9
.630	77.9	77.1	76.1	76.6	76.9	77.5	80.7	83.3	86.1	97.7
.800	81.1	78.2	76.1	79.3	79.0	79.1	81.9	84.8	88.2	99.5
1.00	79.6	81.2	80.6	81.1	80.3	80.6	82.5	85.1	88.3	100.5
1.25	80.6	81.4	80.5	81.4	82.3	82.8	84.1	86.3	89.2	101.5
1.60	82.8	82.5	82.6	83.5	83.6	83.7	84.8	86.6	89.0	102.5
2.00	83.2	83.7	84.3	85.2	84.8	84.8	86.1	87.5	88.9	103.6
2.50	83.8	83.5	83.1	84.4	84.8	85.3	86.5	87.8	88.6	103.5
3.15	84.0	84.1	84.5	85.0	84.9	85.6	86.6	87.6	88.3	103.8
4.00	84.2	83.8	83.8	84.8	85.8	86.3	86.8	87.5	87.9	103.9
5.00	84.7	84.6	84.4	85.8	86.0	86.6	87.3	87.5	87.0	104.3
6.30	84.4	84.2	84.2	85.6	86.0	86.5	87.0	86.8	86.0	104.0
8.00	84.8	84.0	84.4	85.6	86.3	86.7	86.8	86.4	85.5	104.0
10.0	84.3	84.1	84.0	85.0	85.7	85.9	86.4	85.9	84.2	103.5
12.5	83.7	83.6	83.6	84.8	85.3	85.6	85.0	84.1	82.8	102.8
16.0	83.9	83.5	83.4	84.4	84.9	85.0	84.5	83.4	81.5	102.4
20.0	83.0	82.8	82.7	83.6	84.0	84.0	83.6	82.3	80.1	101.5
25.0	82.8	82.6	82.2	83.1	84.2	83.5	83.1	82.0	79.8	101.3
31.5	82.6	82.2	82.2	82.8	83.5	83.1	81.8	80.6	78.9	100.7
40.0	82.4	82.6	82.3	82.4	83.0	82.5	81.4	80.0	78.2	100.4
50.0	82.6	81.9	82.4	82.9	82.7	82.3	81.3	79.9	77.9	100.3
63.0	82.3	82.4	82.4	82.7	82.6	82.3	80.6	79.2	77.6	100.2
80.0	82.9	82.2	82.3	82.8	82.7	82.0	80.9	79.6	77.6	100.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.7	98.0	97.9	98.7	99.7	99.1	98.7	99.0	100.5	

OAPWL = 117.1

V_∞ =	336	fps
T_a =	49	°F
RH_a =	80	%
P_a =	13.67	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS CORR
W631	315	05/21/76		-00 000000	XAKF	0	3660 3660

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.2	86.5	89.8	92.5	92.5	90.7	94.9	96.7	100.5
125	85.1	85.4	87.5	88.6	89.7	73.5	93.5	79.3	106.4
160	83.3	84.6	84.2	85.6	88.8	89.2	91.9	94.4	88.6
200	84.3	85.0	83.3	85.0	87.4	87.4	90.5	92.8	106.4
250	83.0	83.1	80.9	83.0	86.1	69.2	88.5	91.4	94.1
315	80.3	64.9	79.7	80.8	84.5	71.2	87.1	90.4	96.9
400	78.4	77.6	68.5	66.5	83.5	72.8	86.3	89.1	109.1
500	77.3	64.7	67.3	68.7	82.1	73.4	85.4	81.7	89.8
630	68.3	69.6	70.4	71.6	81.0	75.8	78.4	83.3	87.2
800	72.9	71.9	71.7	74.2	73.3	77.1	80.7	84.6	88.4
1000	71.2	73.6	74.0	76.2	76.1	78.7	80.4	64.8	87.5
1250	72.8	74.0	74.4	76.5	76.4	80.1	81.9	85.5	87.2
1600	74.1	75.2	76.1	78.2	79.6	81.0	82.3	85.3	86.5
2000	74.4	76.2	77.7	79.8	80.8	81.9	83.9	85.5	85.6
2500	75.6	76.5	76.6	79.1	81.0	82.4	84.2	85.7	85.2
3150	75.8	76.8	77.8	79.9	81.0	82.4	83.9	85.0	83.8
4000	75.9	76.4	77.4	79.4	81.4	82.9	83.7	84.6	82.6
5000	76.3	77.3	77.8	80.3	81.7	83.1	83.7	83.6	81.6
6300	75.9	76.8	77.8	80.0	81.5	82.5	83.0	82.5	80.3
8000	76.1	76.6	77.7	79.9	81.6	82.9	82.2	82.0	79.3
10000	75.5	76.4	77.4	79.2	80.9	81.8	81.3	81.1	78.1
12500	75.0	76.1	76.8	78.9	80.5	81.3	80.5	79.5	76.5
16000	75.1	75.8	76.5	78.6	79.9	80.6	79.7	78.2	73.3
20000	74.3	75.2	76.0	77.9	79.1	79.8	78.6	77.2	71.3
25000	74.1	75.2	75.8	77.5	80.0	79.1	77.8	76.8	67.7
31500	73.7	74.8	76.6	77.0	79.2	79.4	77.1	76.8	71.6
40000	74.0	76.4	76.6	77.1	78.9	79.0	76.8	76.2	70.4
50000	74.4	74.7	77.4	77.5	79.1	79.2	76.2	76.4	69.7
63000	74.4	74.9	76.2	77.3	78.3	78.6	75.3	75.2	70.9
80000	74.6	75.0	76.3	77.2	76.2	78.2	71.6	75.0	74.9
TSPL	94.0	93.9	95.1	97.0	98.6	97.2	101.1	102.3	112.9
SSPL	88.4	89.0	89.9	91.7	93.7	94.2	95.1	96.2	97.3

V_∞ =	336	fps
T_a =	49	°F
RH_a =	81	%
P_a =	13.67	psia

DECK	LD	DATE	ENG	MOD	ENG ND	STND	C	OBS	CORR
W631	315	05/21/76		-00	000000	XARF	0	3660	3660

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	95.9	95.1	95.6	96.9	97.8	95.8	99.1	100.5	112.6
SSPL	90.2	90.2	90.5	91.6	92.9	92.8	93.1	94.4	97.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	96.4	95.2	95.3	96.2	96.7	94.4	97.4	98.5	110.4
SSPL	90.7	90.3	90.2	90.9	91.8	91.4	91.3	92.4	94.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3660 3660

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.6	87.9	90.6	91.7	90.5	87.9	90.1	91.8	93.7
125	87.5	86.8	87.9	88.0	87.4	71.0	85.1	83.6	78.3
160	85.7	85.8	84.4	85.1	86.9	86.3	87.5	89.7	90.2
200	86.7	86.0	83.4	84.5	85.5	84.5	86.0	86.8	91.0
250	85.4	84.0	81.0	82.7	83.9	66.8	79.1	87.3	88.3
315	82.7	66.5	81.2	80.5	82.4	66.8	78.7	85.4	87.8
400	80.8	77.7	67.1	67.7	81.7	70.2	78.6	83.2	88.1
500	79.7	65.3	67.6	69.7	80.3	70.8	78.7	80.5	79.0
630	70.7	71.0	70.6	72.0	79.2	73.4	73.7	76.4	80.4
800	75.3	73.0	72.2	73.2	71.5	73.9	76.0	78.4	81.7
1000	73.6	75.0	74.4	75.3	74.2	75.7	76.2	78.2	81.7
1250	75.2	75.3	74.7	75.9	76.5	77.1	77.7	79.5	82.3
1600	76.5	76.5	76.5	77.5	77.7	78.1	78.3	79.7	82.0
2000	76.8	77.6	78.2	79.1	79.0	79.0	79.8	80.8	82.0
2500	78.0	77.7	77.0	78.6	79.1	79.5	80.1	81.1	82.1
3150	78.2	78.1	78.3	79.2	79.1	79.5	79.9	80.6	81.3
4000	78.2	77.7	77.8	78.8	79.5	80.1	79.9	80.3	80.8
5000	78.6	78.6	78.3	79.7	79.9	80.2	80.0	80.0	79.9
6300	78.3	78.1	78.3	79.4	79.7	79.7	79.4	79.1	78.6
8000	78.5	77.9	78.2	79.3	79.7	80.1	78.9	78.3	78.1
10000	77.9	77.7	77.8	78.5	79.0	79.1	78.0	77.5	77.1
12500	77.4	77.4	77.3	78.3	78.6	78.6	77.3	76.3	75.5
16000	77.5	77.1	77.0	77.9	78.0	77.8	76.6	75.5	73.9
20000	76.7	76.5	76.4	77.2	77.2	77.1	75.5	74.4	72.8
25000	76.5	76.5	76.1	76.9	78.1	76.5	74.6	74.0	72.0
31500	76.1	76.2	76.8	76.3	77.3	76.8	74.2	73.2	72.5
40000	76.4	77.8	76.7	76.3	77.0	76.4	73.9	72.9	71.9
50000	76.8	76.2	77.7	76.7	77.2	76.6	73.5	72.6	72.0
63000	76.8	76.2	76.5	76.5	76.4	76.0	72.7	71.4	71.1
80000	76.9	76.3	76.6	76.4	76.3	75.8	69.6	68.5	71.5
TSPL	96.4	95.1	95.6	96.3	96.6	94.4	95.8	97.6	99.3
SSPL	90.7	90.3	90.3	91.1	91.8	91.5	91.1	91.6	92.7

V_∞ =	336	fps
T_a =	49	°F
RH_a =	81	%
P_a =	13.67	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=336 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3660 CONDITION 3660

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.54	0.0		1.54	0.0	THRUST,IDL	LB	48.1	0.0	N	214.1	0.0
TEMP	(R)	714.0	0.0	(K)	396.7	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.063	0.0	KG/M3	1.013	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
VEL	FPS	1000.0	0.0	M/S	304.8	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.6	87.9	90.6	91.7	90.5	87.9	90.1	91.8	93.7	108.8
.125	87.5	86.8	87.9	88.0	87.4	71.0	85.1	83.6	78.3	104.5
.160	85.7	85.8	84.4	85.1	86.9	86.3	87.5	89.7	90.2	105.1
.200	86.7	86.0	83.4	84.5	85.5	84.5	86.0	86.8	91.0	104.1
.250	85.4	84.0	81.0	82.7	83.9	66.8	79.1	87.3	88.3	101.8
.315	82.7	66.5	81.2	80.5	82.4	68.8	78.7	65.4	87.8	99.7
.400	80.8	77.7	67.1	67.7	81.7	70.2	78.6	83.2	88.1	97.9
.500	79.7	65.3	67.6	69.7	80.3	70.8	78.7	80.5	79.0	95.0
.630	70.7	71.0	70.6	72.0	79.2	73.4	73.7	76.4	80.4	93.3
.800	75.3	73.0	72.2	73.2	71.5	73.9	76.0	78.4	81.7	93.4
1.00	73.6	75.0	74.4	75.3	74.2	75.7	76.2	78.2	81.7	94.3
1.25	75.2	75.3	74.7	75.9	76.5	77.1	77.7	79.5	82.3	95.4
1.60	76.5	76.5	76.5	77.5	77.7	78.1	78.3	79.7	82.0	96.2
2.00	76.8	77.6	78.2	79.1	79.0	79.6	79.8	80.8	82.0	97.4
2.50	78.0	77.7	77.0	78.6	79.1	79.5	80.1	81.1	82.1	97.4
3.15	78.2	78.1	78.3	79.2	79.1	79.5	79.9	80.6	81.3	97.5
4.00	78.2	77.7	77.8	78.8	79.5	80.1	79.9	80.3	80.8	97.5
5.00	78.6	78.6	78.3	79.7	79.9	80.2	80.0	80.0	79.9	97.8
6.30	78.3	78.1	78.3	79.4	79.7	79.7	79.4	79.1	78.6	97.3
8.00	78.5	77.9	78.2	79.3	79.7	80.1	78.9	78.3	78.1	97.2
10.0	77.9	77.7	77.8	78.5	79.0	79.1	78.0	77.5	77.1	96.5
12.5	77.4	77.4	77.3	78.3	78.6	78.6	77.3	76.3	75.5	96.0
16.0	77.5	77.1	77.0	77.9	78.0	77.8	76.6	75.5	73.9	95.5
20.0	76.7	76.5	76.4	77.2	77.2	77.1	75.5	74.4	72.8	94.7
25.0	76.5	76.5	76.1	76.9	78.1	76.5	74.6	74.0	72.0	94.6
31.5	76.1	76.2	76.8	76.3	77.3	76.8	74.2	73.2	72.5	94.4
40.0	76.4	77.8	76.7	76.3	77.0	76.4	73.9	72.9	71.9	94.5
50.0	76.8	76.2	77.7	76.7	77.2	76.6	73.5	72.6	72.0	94.5
63.0	76.8	76.2	76.5	76.5	76.4	76.0	72.7	71.4	71.1	94.0
80.0	76.9	76.3	76.6	76.4	76.3	75.8	69.6	68.5	71.5	93.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	96.4	95.1	95.6	96.3	96.6	94.4	95.8	97.6	99.3	OAPWL = 114.5

V_∞ =	336	fps
T_a =	49	°F
RH_a =	81	%
P_a =	13.67	psia

A1-182

C3

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3661 3661

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.7	86.8	90.1	92.9	92.6	90.4	79.1	96.2	101.9
125	85.3	85.6	87.7	88.7	89.5	89.2	87.1	95.0	110.0
160	83.6	84.6	84.2	85.9	86.6	88.6	83.8	94.3	94.7
200	84.6	85.2	83.7	85.4	87.6	87.1	82.2	92.8	90.5
250	83.3	83.0	81.0	83.0	86.1	85.0	82.1	90.6	96.3
315	80.4	81.0	79.5	80.7	84.6	83.6	78.7	89.9	113.0
400	78.4	76.9	77.6	79.7	83.3	82.6	78.5	88.8	109.1
500	77.3	77.7	77.3	78.7	81.7	81.2	74.3	87.6	88.8
630	76.5	77.2	60.0	78.0	80.1	79.7	77.9	74.5	84.0
800	77.1	76.9	76.7	66.3	78.7	78.5	76.3	68.1	80.3
1000	61.3	63.3	60.3	64.3	78.2	61.6	76.3	73.7	80.4
1250	61.5	60.6	63.2	67.0	66.2	69.7	75.6	74.8	80.2
1600	61.3	60.7	63.5	67.3	69.3	70.9	75.1	73.4	74.8
2000	61.0	65.6	67.0	69.3	70.7	71.6	73.2	73.5	77.9
2500	62.8	66.6	65.9	68.6	70.7	71.9	76.7	74.1	78.4
3150	65.7	67.1	67.6	69.7	70.3	71.9	73.3	74.3	73.6
4000	65.9	64.4	65.9	69.5	70.6	72.0	73.3	73.9	74.3
5000	65.7	67.4	67.8	70.4	71.5	72.4	71.1	72.8	72.8
6300	65.7	65.7	67.4	70.0	70.5	71.6	64.8	71.1	72.8
8000	67.0	66.1	68.0	70.1	71.0	71.6	77.9	71.9	74.9
10000	65.5	66.7	67.0	68.7	69.8	70.9	77.7	69.1	74.0
12500	65.8	67.0	67.2	67.9	69.6	70.5	77.0	65.6	68.9
16000	65.4	66.7	66.3	68.7	69.3	69.5	75.8	63.5	68.8
20000	64.7	65.4	66.5	67.6	69.0	68.8	66.5	66.0	75.5
25000	63.9	65.9	66.7	67.1	73.8	68.9	66.7	67.5	74.6
31500	59.3	65.5	71.3	65.1	72.4	72.3	65.6	71.3	62.4
40000	64.5	72.3	71.8	66.8	72.5	72.0	67.8	71.7	64.5
50000	65.3	64.7	73.5	68.6	73.7	73.2	65.8	72.2	66.5
63000	64.4	65.8	67.1	69.5	68.0	68.6	64.9	65.1	73.1
80000	84.6	80.3	63.2	83.5	65.5	67.6	61.5	65.2	84.0
TSPL	94.0	93.4	94.2	96.4	97.4	96.5	93.1	102.0	116.1
SSPL	86.9	85.5	83.5	87.0	87.9	87.3	88.7	89.6	93.0

V_∞ =	336	fps
T_a =	48	°F
RH_a =	81	%
P_a =	13.67	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XAKF 0 3661 3661

DBTF JET NOISE TEST CONF. 1 2.2" DIA
. NOZ. TAPE 4914 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	95.8	94.6	94.7	96.3	96.6	95.0	91.1	100.2	115.9
SSPL	88.8	86.7	84.1	86.9	87.1	85.9	86.7	87.8	92.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	96.3	94.7	94.4	95.6	95.5	93.6	89.4	98.2	113.7
SSPL	89.3	86.8	83.8	86.2	86.0	84.5	85.0	85.8	90.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/21/76 -00 000000 XARF 0 3661 3661

DBTF JET NOISE TEST CONF. 1 2.2" DIA
• NOZ. TAPE 4914 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	91.1	88.2	90.9	92.1	90.6	88.4	77.4	80.7	94.2
125	87.7	87.0	88.1	87.9	87.6	86.6	83.6	85.1	93.7
160	86.0	85.8	84.4	85.4	86.7	86.1	80.8	83.7	91.3
200	87.0	86.2	83.8	84.8	85.7	84.7	79.2	82.3	89.4
250	85.7	83.9	81.1	82.6	84.2	82.5	78.7	80.9	88.6
315	82.8	82.0	79.5	80.3	82.7	81.2	75.7	77.2	89.7
400	80.8	78.0	78.0	79.4	81.4	80.2	75.4	76.9	88.2
500	79.7	78.8	77.5	78.2	79.8	78.9	71.7	75.0	84.8
630	78.9	76.5	61.6	79.0	78.2	77.1	75.1	71.8	71.9
800	79.5	78.1	74.7	65.9	77.0	75.9	74.0	68.0	65.6
1000	63.7	64.2	60.6	65.7	76.2	59.4	68.6	72.1	70.8
1250	63.9	61.9	64.1	66.1	64.3	66.5	70.7	71.5	71.8
1600	63.7	62.1	64.4	66.9	67.5	67.8	70.6	70.8	69.8
2000	63.4	67.2	67.5	68.7	68.8	68.7	69.2	69.2	70.4
2500	65.2	67.9	66.3	68.0	68.8	68.8	72.1	71.8	70.9
3150	68.1	68.4	68.0	68.9	68.4	69.0	69.4	69.9	70.7
4000	68.3	65.6	66.7	66.9	68.7	69.1	69.4	69.7	70.4
5000	68.1	68.7	68.3	69.8	69.6	69.7	67.9	67.7	69.2
6300	68.0	67.0	66.0	69.3	68.6	69.1	62.7	62.8	68.1
8000	69.4	67.4	68.5	69.4	69.1	68.5	73.2	71.9	68.4
10000	67.8	68.0	67.3	68.0	67.9	67.7	73.0	70.6	65.7
12500	68.1	68.2	67.3	67.2	67.7	67.4	72.5	68.8	61.8
16000	67.8	67.9	66.7	68.0	67.4	66.4	71.4	67.1	60.0
20000	67.1	66.7	66.8	66.9	67.1	66.2	63.6	61.5	63.6
25000	66.2	67.3	66.7	67.1	71.9	66.6	65.6	62.4	64.8
31500	61.7	67.7	70.6	64.5	70.6	69.9	63.5	64.1	66.9
40000	66.9	74.0	70.8	66.6	70.7	69.6	65.1	65.6	67.4
50000	67.6	66.7	73.4	67.8	71.9	70.9	63.8	64.2	68.2
63000	66.8	67.2	67.7	68.5	66.0	66.0	62.4	60.1	62.5
80000	87.0	79.3	65.5	61.9	65.3	63.4	75.2	70.9	63.2
TSPL	96.3	94.5	94.6	95.7	95.5	94.1	89.6	91.1	100.0
SSPL	89.3	85.9	83.3	86.2	86.0	84.7	84.4	83.2	86.6

V_∞ =	336	fps
T_a =	48	°F
RH_a =	81	%
P_a =	13.67	psia

20036F DBTF JET NOISE TEST CONF. 1 2.2" DIA. NOZ. TAPE 4914 10.2049

STAND XARF RIG ID VT=336 TEST DATE 05/21/76 SCALE RATIO 22.5/1 RUN NUMBER 3661 CONDITION 3661

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.31	0.0		1.31	0.0	THRUST,IDL	LB		31.5	0.0	N	140.2	0.0
TEMP	(R)		708.0	0.0	(K)	393.3	0.0	THRUST,MEA	LB		0.0		N	0.0	
RHO	LB/FT3		0.061	0.0	KG/M3	0.976	0.0	AREA (MOD)	SQFT		0.03	0.0	SQM	0.003	0.0
VEL	FPS		793.0	0.0	M/S	241.7	0.0	W (MODEL)	LB/S		1.3	0.0	KG/S	0.6	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.1	88.2	90.9	92.1	90.6	88.4	77.4	80.7	94.2	108.1
.125	87.7	87.0	88.1	87.9	87.6	86.6	83.6	85.1	93.7	105.9
.160	86.0	85.8	84.4	85.4	86.7	86.1	80.8	83.7	91.3	104.0
.200	87.0	86.2	83.8	84.8	85.7	84.7	79.2	82.3	89.4	103.3
.250	85.7	83.9	81.1	82.6	84.2	82.5	78.7	80.9	88.6	101.5
.315	82.8	82.0	79.5	80.3	82.7	81.2	75.7	77.2	89.7	100.1
.400	80.8	78.0	78.0	79.4	81.4	80.2	75.4	76.4	88.2	98.5
.500	79.7	78.8	77.5	78.2	79.8	78.9	71.7	75.0	84.8	97.0
.630	78.9	76.5	61.6	79.0	78.2	77.1	75.1	71.8	71.9	94.7
.800	79.5	78.1	74.7	65.9	77.0	75.9	74.0	68.0	65.6	93.8
1.00	63.7	64.2	60.6	65.7	76.2	59.4	68.6	72.1	70.8	88.2
1.25	63.9	61.9	64.1	66.1	64.3	66.5	70.7	71.5	71.6	85.7
1.60	63.7	62.1	64.4	66.9	67.5	67.8	70.6	70.8	69.8	85.9
2.00	63.4	67.2	67.5	68.7	68.8	68.7	69.2	69.2	70.4	86.6
2.50	65.2	67.9	66.3	68.0	68.8	68.8	72.1	71.8	70.9	87.5
3.15	68.1	68.4	68.0	68.9	68.4	69.0	69.4	69.9	70.7	87.2
4.00	68.3	65.6	66.7	68.9	68.7	69.1	69.4	69.7	70.4	86.8
5.00	68.1	68.7	68.3	69.8	69.6	69.7	67.9	67.7	69.2	87.2
6.30	68.0	67.0	68.0	69.3	68.6	69.1	62.7	62.8	68.1	86.0
8.00	69.4	67.4	68.5	69.4	69.1	68.5	73.2	71.9	68.4	88.1
10.0	67.8	68.0	67.3	68.0	67.9	67.7	73.0	70.6	65.7	87.3
12.5	68.1	68.2	67.3	67.2	67.7	67.4	72.5	68.8	61.8	86.8
16.0	67.8	67.9	66.7	68.0	67.4	66.4	71.4	67.1	66.0	86.2
20.0	67.1	66.7	66.8	66.9	67.1	66.2	63.6	61.5	63.6	84.4
25.0	66.2	67.3	66.7	67.1	71.9	66.6	63.6	62.4	64.8	85.8
31.5	61.7	67.7	70.6	64.5	70.6	69.9	63.5	64.1	66.9	86.4
40.0	66.9	74.0	70.8	66.0	70.7	69.6	65.1	65.6	67.4	88.2
50.0	67.6	66.7	73.4	67.8	71.9	70.9	63.6	64.2	68.2	88.1
63.0	66.8	67.2	67.7	68.5	66.0	66.0	62.4	60.1	62.5	84.7
80.0	87.0	79.3	65.5	81.9	63.3	63.4	75.2	70.9	63.2	97.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 113.1
OSPL	96.3	94.5	94.6	95.7	95.5	94.1	89.6	91.1	100.0	

V_∞ = 336 fps
T_a = 48 °F
RH_a = 81 %
P_a = 13.67 psia

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3617 CONDITION 3617

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	911.2	0.0	KG/S	413.3	0.0
PRES	25.00IN	0.85BAR	P.R.		2.52	0.0		2.52	0.0	THRUST,IDL	LB	53288.3	0.0	N	*******	0.0
WIND D			TEMP	(K)	1260.0	0.0	(K)	700.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.040	0.0	KG/M3	0.647	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H	70.0%		VEL	FPS	1883.0	0.0	M/S	573.9	0.0	W (MODEL)	LB/S	1.8	0.0	KG/S	0.8	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	101.2	101.8	100.3	101.0	102.7	103.1	104.9	108.7	112.8	150.0
.063	103.9	103.7	103.3	104.7	104.7	104.4	107.1	111.0	114.3	152.1
.080	104.8	105.3	106.2	107.3	106.5	105.8	109.0	112.9	115.6	153.9
.100	106.4	105.9	105.0	105.6	106.9	106.9	110.0	113.9	116.2	154.4
.125	106.5	106.5	106.9	106.8	106.5	107.9	110.7	114.1	116.3	154.9
.160	107.6	106.8	106.1	106.7	107.8	108.9	111.0	114.4	116.8	155.3
.200	111.8	108.4	107.5	108.2	108.8	109.6	111.2	114.2	116.3	155.9
.250	118.0	112.8	108.8	109.0	108.9	110.0	111.1	113.4	115.2	157.4
.315	119.1	116.5	111.9	109.7	109.6	110.6	110.9	112.9	114.5	158.9
.400	115.0	115.9	115.0	112.3	110.4	110.1	110.2	111.8	112.9	158.5
.500	114.0	112.0	113.0	114.3	112.2	110.8	109.9	110.3	110.6	157.6
.630	114.0	112.6	110.6	112.6	113.5	112.0	109.9	109.2	108.8	157.3
.800	112.7	111.3	110.3	110.9	112.3	112.1	109.3	107.7	106.7	156.3
1.00	111.9	111.0	110.0	110.8	111.9	111.6	109.0	107.2	105.9	155.9
1.25	111.4	110.4	109.6	109.8	110.4	110.1	108.2	106.4	104.4	155.0
1.60	110.9	109.8	109.4	109.4	109.4	108.7	106.8	105.1	103.4	154.2
2.00	110.3	109.3	109.1	109.7	108.9	107.9	105.8	104.0	102.2	153.8
2.50	109.7	109.0	108.8	108.8	108.4	107.4	105.0	103.3	101.7	153.3
3.15	109.4	108.5	108.2	108.6	108.4	107.1	104.9	102.9	101.3	153.0
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 168.5

OSPL	125.5	123.7	122.4	122.4	122.4	122.1	121.9	123.9	125.7
PNL	133.1	131.9	131.2	131.5	131.3	130.6	129.4	129.2	129.5

200. SIDELINE

PNL	129.8	129.1	128.5	128.6	128.1	126.6	124.3	122.4	120.7

370. SIDELINE

PNL	123.9	123.2	122.6	122.7	122.2	120.6	118.2	116.5	114.9

800. SIDELINE

PNL	116.3	115.2	114.6	114.6	113.9	112.4	110.0	108.9	107.3

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3618 CONDITION 3618

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	764.4	0.0	KG/S	346.7	0.0
PRES	25.00IN	0.85BAR	P.R.		1.82	0.0		1.82	0.0	THRUST,IDL	LB	36750.0	0.0	N	*******	0.0
WIND D			TEMP	(R)	1265.0	0.0	(K)	702.8	0.0	THRUST,MEA	LB	0.0		N	0.0	
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.037	0.0	KG/M3	0.592	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H	70.0%		VEL	FPS	1548.0	0.0	M/S	471.8	0.0	W (MODEL)	LB/S	1.5	0.0	KG/S	0.7	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	95.3	95.8	94.3	95.1	96.7	97.2	98.8	102.2	105.7	143.6
.063	97.8	97.2	97.0	98.3	98.6	98.3	100.5	103.8	106.8	145.3
.080	98.6	98.9	99.7	100.4	99.9	99.4	101.8	105.1	107.6	146.8
.100	99.4	98.6	97.9	99.0	100.0	99.9	102.0	105.0	107.4	146.5
.125	98.5	98.6	99.0	99.5	99.7	100.8	102.4	104.5	106.4	146.4
.160	98.2	97.8	97.6	98.9	100.5	101.3	102.3	104.0	105.4	146.1
.200	97.6	97.6	97.9	99.7	100.8	101.5	102.5	103.3	103.6	146.0
.250	97.0	97.0	97.6	99.6	100.7	101.8	102.1	102.1	101.7	145.5
.315	96.9	96.4	97.1	99.3	100.8	102.1	102.0	101.7	100.9	145.5
.400	96.1	96.1	96.9	98.3	100.1	100.9	100.8	100.5	99.3	144.5
.500	95.2	95.2	95.9	97.8	99.3	100.2	99.8	98.8	97.3	143.5
.630	95.0	94.9	95.3	97.3	99.0	99.5	98.7	97.3	95.5	142.7
.800	93.9	93.7	94.1	96.1	97.5	98.0	96.9	95.4	93.4	141.3
1.00	93.2	93.4	93.9	95.7	97.2	96.9	95.4	94.1	92.2	140.5
1.25	92.6	92.7	93.1	94.5	95.9	95.6	94.2	92.6	90.5	139.4
1.60	92.5	92.4	93.1	94.2	95.1	94.7	93.0	91.4	89.5	138.8
2.00	92.0	91.9	92.7	94.2	94.6	93.9	92.2	90.5	88.4	138.3
2.50	91.1	91.7	92.1	93.1	94.0	93.0	91.3	89.8	87.8	137.6
3.15	89.7	91.0	91.4	92.4	93.3	92.4	90.7	89.3	87.4	136.9
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 156.7

OSPL	108.9	108.8	109.0	110.4	111.5	112.0	112.5	113.9	115.4
PNL	115.3	115.7	116.0	117.3	118.4	118.2	117.5	117.3	117.1

200. SIDELINE

PNL	112.1	112.9	113.4	114.6	115.1	114.2	112.5	110.8	108.3

370. SIDELINE

PNL	106.3	107.0	107.5	108.7	109.2	108.3	106.8	105.1	102.6

800. SIDELINE

PNL	98.3	99.1	99.6	100.8	101.3	100.7	99.3	97.5	95.1

STAND XARF RIG ID VT=201 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3626 CONDITION 3626

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	1103.6	0.0	KG/S	500.6	0.0
PRES	25.00IN	0.85BAR	P.R.		2.52	0.0		2.52	0.0	THRUST,IDL	LB	64298.2	0.0	N	*******	0.0
WIND D			TEMP	(R)	1254.0	0.0	(K)	696.7	0.0	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.041	0.0	KG/M3	0.650	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H	70.0%		VEL	FPS	1876.0	0.0	M/S	571.8	0.0	W (MODEL)	LB/S	2.2	0.0	KG/S	1.0	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	102.5	103.2	101.7	104.2	106.1	106.4	109.3	114.0	117.5	154.1
.063	103.7	103.9	104.3	105.8	107.3	107.9	111.5	116.2	118.9	155.9
.080	104.9	106.8	108.5	109.7	108.9	109.3	113.8	118.2	119.9	157.9
.100	107.1	106.2	106.9	109.0	109.2	109.9	114.3	118.9	120.1	158.2
.125	107.3	107.5	107.9	109.4	109.3	111.0	114.8	119.0	120.1	158.5
.160	108.4	107.9	107.3	108.6	109.9	111.9	114.9	119.3	120.3	158.7
.200	110.6	109.0	108.1	109.8	111.2	112.6	115.1	118.9	119.6	158.9
.250	116.4	112.1	109.7	110.2	111.1	112.9	114.6	118.1	118.5	159.1
.315	118.6	115.9	111.8	110.7	111.6	113.3	114.4	117.6	117.4	160.1
.400	115.6	116.3	114.7	112.5	111.7	112.6	113.5	116.3	115.6	159.7
.500	113.6	112.6	113.7	114.5	112.8	112.7	112.6	114.5	113.6	158.8
.630	113.5	112.5	110.9	113.2	114.1	113.1	111.9	112.8	111.7	158.1
.800	111.8	111.1	110.2	110.8	113.1	112.7	110.6	110.9	109.4	156.8
1.00	110.9	110.3	109.6	110.4	112.0	112.2	109.7	109.8	108.2	156.0
1.25	109.6	109.2	108.7	109.1	110.3	110.3	108.6	108.3	106.1	154.6
1.60	108.6	108.3	108.0	108.4	108.8	108.6	106.8	106.7	104.7	153.4
2.00	107.4	107.1	107.0	108.0	107.9	107.3	105.8	105.3	103.0	152.3
2.50	106.1	106.2	106.3	106.6	106.9	106.1	104.2	103.9	101.6	151.3
3.15	105.1	105.6	105.0	105.7	105.9	105.1	103.4	102.9	100.6	150.2
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 170.0

OSPL	124.6	123.4	122.3	122.8	123.3	123.8	125.1	126.5	129.3
PNL	131.3	130.4	129.8	130.4	130.6	130.7	130.3	132.5	132.3
			200. SIDELINE						
PNL	128.2	127.7	127.2	127.6	127.6	126.7	125.2	126.0	123.5
			370. SIDELINE						
PNL	122.6	122.1	121.4	121.8	121.7	120.9	119.6	120.3	117.8
			800. SIDELINE						
PNL	115.3	114.8	113.9	114.1	113.8	112.9	112.2	112.9	110.3

20036F DbTF JET NOISE TeST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3627 CONDITION 3627

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	1093.5	0.0	KG/S	496.0	0.0
PRES	25.00IN	0.85BAR	P.R.		2.52	0.0		2.52	0.0	THRUST,IDL	LB	6391.0	0.0	N	*******	0.0
WIND D			TEMP	(R)	1258.0	0.0	(K)	698.9	0.0	THRUST,MEA	LB	0.0		N	0.0	
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.040	0.0	KG/M3	0.649	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H	70.0%		VEL	FPS	1882.0	0.0	M/S	573.6	0.0	W (MODEL)	LB/S	2.2	0.0	KG/S	1.0	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	102.9	103.2	102.8	106.3	108.6	109.1	112.8	118.5	121.3	157.7
.063	103.3	105.2	104.8	107.0	109.5	110.5	115.4	120.6	122.1	159.4
.080	106.0	107.5	109.5	110.2	111.3	112.1	117.9	122.1	122.9	161.0
.100	106.9	106.6	107.8	110.9	111.3	112.9	118.5	123.1	123.2	161.6
.125	106.9	108.2	108.8	109.7	111.7	113.4	118.9	123.1	123.1	161.8
.160	108.3	108.4	108.4	110.8	112.4	114.5	118.9	123.7	123.1	162.2
.200	110.4	109.3	108.8	110.6	113.1	115.1	118.8	123.0	122.1	161.8
.250	115.6	112.2	110.6	111.4	113.0	115.5	118.3	122.1	120.8	161.6
.315	118.3	116.0	112.4	111.9	113.6	115.7	117.5	121.3	119.5	161.9
.400	115.9	116.7	115.1	113.4	113.5	115.0	116.6	119.7	117.8	161.4
.500	113.6	113.2	114.4	115.1	114.3	114.7	115.3	117.8	116.1	160.3
.630	113.6	112.9	112.0	114.2	115.5	114.9	114.4	116.3	114.5	159.6
.800	111.9	111.5	111.0	111.8	114.5	114.2	112.7	114.3	112.1	158.2
1.00	111.0	110.8	110.5	111.5	113.5	113.4	111.5	113.2	111.0	157.3
1.25	109.7	109.8	109.5	110.3	111.9	111.8	110.6	111.7	109.2	156.0
1.60	109.1	108.9	108.9	109.6	110.6	110.6	109.3	110.3	107.9	155.0
2.00	107.8	107.8	108.0	109.3	109.6	109.2	108.2	109.1	106.5	154.0
2.50	106.5	107.0	107.3	108.1	108.9	108.3	106.9	108.3	105.7	153.1
3.15	105.9	105.8	106.3	107.4	107.9	107.5	106.4	107.6	104.9	152.3
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 172.5

OSPL	124.5	123.8	123.1	123.9	125.1	126.0	128.5	132.5	132.2
PNL	131.3	130.9	130.7	131.7	132.7	132.9	133.4	136.3	135.1
			200. SIDELINE						
PNL	128.2	128.2	128.1	128.9	129.4	128.9	128.3	129.8	126.3
			370. SIDELINE						
PNL	122.6	122.6	122.3	123.0	123.6	123.0	122.6	124.2	120.6
			800. SIDELINE						
PNL	115.2	115.2	114.6	115.2	115.7	115.1	115.2	116.7	113.1

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=32 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3628 CONDITION 3628

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	865.7	0.0	KG/S	392.7	0.0
PRES	25.00IN	0.85BAR	P.R.		2.52	0.0		2.52	0.0	THRUST,IDL	LB	50597.0	0.0	N	*******	0.0
WIND D			TEMP	(R)	1260.0	0.0	(K)	700.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.040	0.0	KG/M3	0.647	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H	70.0%		VEL	FPS	1882.0	0.0	M/S	573.6	0.0	W (MODEL)	LB/S	1.7	0.0	KG/S	0.8	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	103.4	102.7	102.5	106.7	109.3	110.7	115.5	122.2	124.2	160.6
.063	103.2	104.7	104.1	107.5	109.8	112.2	116.0	123.6	124.3	161.8
.080	106.1	107.9	109.2	110.7	111.9	114.0	120.7	124.9	125.2	163.4
.100	107.2	106.9	107.4	110.7	112.1	114.5	121.5	125.8	125.4	164.1
.125	107.1	108.2	107.9	109.1	112.1	114.9	121.7	125.8	124.8	164.0
.160	108.0	108.6	108.6	110.9	113.3	116.3	121.5	126.8	124.6	164.5
.200	109.5	109.3	108.9	111.2	113.6	116.6	121.5	125.6	123.6	163.9
.250	113.8	111.3	110.0	111.4	113.6	116.5	120.5	124.8	122.0	163.2
.315	117.4	114.9	112.3	112.2	114.4	117.2	119.9	123.8	120.9	163.2
.400	116.1	116.1	114.7	113.6	114.6	116.7	118.5	122.2	119.3	162.6
.500	113.4	113.3	114.6	115.1	115.0	116.1	117.6	120.7	118.1	161.6
.630	113.1	112.4	112.2	114.6	116.0	116.1	116.5	119.4	117.0	160.8
.800	112.4	111.7	111.7	112.8	115.4	115.6	115.1	117.6	114.9	159.7
1.00	111.7	111.5	111.7	112.8	115.2	115.3	114.8	117.2	114.2	159.4
1.25	111.2	111.4	111.6	112.5	114.4	114.6	114.3	116.3	113.4	158.9
1.60	111.9	111.9	112.6	113.3	114.6	114.7	114.2	116.5	113.9	159.3
2.00	112.4	112.4	113.2	114.5	115.3	115.1	115.0	117.0	114.3	159.9
2.50	112.6	113.2	114.1	114.8	116.0	115.8	115.5	117.7	114.8	160.5
3.15	113.5	113.7	114.6	115.7	116.8	116.6	116.7	118.8	116.1	161.4
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 174.9

OSPL	125.0	124.5	124.5	125.5	127.0	128.3	131.5	135.6	134.3
PNL	134.9	134.9	135.3	136.4	137.8	138.2	139.4	142.3	140.0

200. SIDELINE

PNL	131.6	132.0	132.6	133.6	134.5	134.2	134.2	135.4	130.7

370. SIDELINE

PNL	125.6	126.1	126.7	127.6	128.5	128.2	128.2	129.3	124.4

800. SIDELINE

PNL	117.3	117.8	118.4	119.3	120.2	119.8	119.7	120.7	115.8

2128. SIDELINE

PNL	105.3	105.5	105.7	106.5	107.3	107.0	108.0	109.7	104.8

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID VT=199 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3629 CONDITION 3629

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	815.1	0.0	KG/S	369.7	0.0
PRES	25.00IN	0.85BAR	P.R.		1.61	0.0		1.81	0.0	THRUST,IDL	LB	38930.6	0.0	N	*******	0.0
WIND D			TEMP	(R)	1254.0	0.0	(K)	696.7	0.0	THRUST,MEA	LB	0.0		N	0.0	
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.037	0.0	KG/M3	0.597	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H	70.0%		VEL	FPS	1536.0	0.0	M/S	468.8	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	96.9	97.3	96.0	98.6	100.4	100.6	103.2	107.6	110.9	147.9
.063	97.9	98.0	98.3	99.5	101.5	101.8	104.9	109.2	111.9	149.2
.080	99.0	100.7	102.1	103.0	102.6	103.0	106.7	110.6	112.7	150.8
.100	100.2	99.3	100.1	102.7	102.8	103.5	106.6	110.6	112.6	150.7
.125	99.8	100.3	101.0	102.2	103.0	104.1	106.5	109.6	111.3	150.2
.160	99.7	99.6	99.6	101.5	103.3	104.8	106.2	108.9	110.6	149.8
.200	99.0	99.7	99.8	102.0	103.8	105.1	106.3	107.8	108.6	149.4
.250	98.0	98.9	99.8	101.6	103.5	105.2	105.9	106.5	106.6	148.8
.315	97.8	98.3	99.1	101.3	103.6	105.3	105.5	105.7	105.1	148.5
.400	97.1	98.0	98.4	100.5	102.9	104.2	104.4	104.4	103.2	147.5
.500	96.2	96.8	97.7	99.6	102.1	103.4	103.2	102.4	100.7	146.3
.630	95.5	96.4	96.7	99.1	101.6	102.6	101.9	100.6	98.6	145.3
.800	93.9	94.7	95.4	97.5	99.8	100.8	99.7	98.2	95.8	143.5
1.00	93.1	93.8	94.6	96.7	99.2	99.4	98.2	96.8	94.2	142.3
1.25	91.9	92.8	93.6	95.3	97.6	97.7	96.4	94.7	92.0	140.8
1.60	91.2	91.6	92.6	94.4	96.2	96.3	94.4	92.7	90.3	139.4
2.00	90.2	90.6	91.6	93.5	94.9	94.5	92.9	91.0	88.3	138.1
2.50	89.1	89.7	90.7	91.9	93.5	93.1	91.1	89.4	87.0	136.8
3.15	88.2	88.2	89.2	90.7	92.0	91.6	89.7	87.8	85.5	135.4
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 160.1

OSPL	109.6	110.1	110.7	112.5	114.1	115.1	116.4	118.6	120.4
PNL	114.8	115.3	116.1	117.7	119.5	120.3	120.4	120.9	121.0
			200. SIDELINE						
PNL	111.6	112.6	113.5	115.0	116.3	116.4	115.5	114.4	112.3
			370. SIDELINE						
PNL	105.8	106.8	107.7	109.2	110.7	110.8	109.9	108.8	106.7
			800. SIDELINE						
PNL	98.1	99.3	100.0	101.8	103.3	103.5	102.5	101.5	99.3
			2128. SIDELINE						
PNL	87.7	88.9	89.7	91.5	92.9	93.0	92.1	91.1	89.0

20036F DBTF JET NOISE TEST CONV. NOZ CONF. 1 WITH TABS TAPE 4913 10.2049

STAND XARF RIG ID V1=99 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3630 CONDITION 3630

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	825.2	0.0	KG/S	374.3	0.0
PRES	25.00IN	0.85BAR	P.R.		1.81	0.0		1.81	0.0	THRUST,IDL	LB	39568.0	0.0	N	*******	0.0
WIND D			TEMP	(R)	1262.0	0.0	(K)	701.1	0.0	THRUST,MEA	LB	0.0		N	0.0	
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.037	0.0	KG/M3	0.593	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H	70.0%		VEL	FPS	1544.0	0.0	M/S	470.6	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	97.5	97.6	97.4	100.8	102.8	103.3	107.0	112.2	114.9	151.6
.063	98.1	99.7	99.3	101.5	103.7	104.9	109.1	113.8	115.8	153.0
.080	100.5	101.7	103.6	104.3	105.2	106.1	111.0	115.2	116.8	154.5
.100	100.6	100.7	102.0	104.8	105.5	106.5	110.6	115.2	116.6	154.4
.125	100.7	101.7	102.4	103.5	105.8	107.0	110.3	114.3	116.1	153.9
.160	100.7	101.3	101.0	103.8	106.0	107.8	109.6	113.5	115.1	153.4
.200	100.5	101.3	101.8	103.8	106.3	108.2	109.7	112.0	113.3	152.8
.250	99.6	100.6	101.5	103.8	106.0	108.2	109.2	110.3	111.2	151.9
.315	99.3	100.0	100.7	103.4	106.3	108.4	108.6	109.5	109.5	151.5
.400	98.9	99.8	100.3	103.0	105.6	107.3	107.6	108.1	107.3	150.5
.500	97.9	99.0	99.8	102.3	104.8	106.5	106.1	105.9	104.7	149.2
.630	97.7	98.5	99.1	101.8	104.4	105.9	105.1	104.2	102.6	148.3
.800	96.1	96.9	97.8	100.4	102.9	104.3	103.0	101.7	99.6	146.6
1.00	95.1	96.3	97.3	99.6	102.6	102.9	101.5	100.4	98.1	145.6
1.25	94.0	95.2	96.3	98.5	101.0	101.3	99.7	98.3	95.9	144.1
1.60	93.3	94.2	95.5	97.7	99.5	99.9	97.9	96.6	94.1	142.7
2.00	92.5	92.9	94.4	96.8	98.4	98.3	96.6	94.8	92.2	141.5
2.50	91.4	92.4	93.6	95.5	97.2	96.8	94.7	93.3	90.7	140.2
3.15	90.8	91.2	92.4	94.5	95.9	95.5	93.8	92.1	90.0	139.1
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
									OAPWL =	163.6
OSPL	110.9	111.7	112.5	114.7	116.8	118.3	120.0	123.2	124.6	
PNL	116.8	117.5	118.5	120.7	122.7	123.5	123.8	125.0	125.3	
200. SIDELINE										
PNL	113.5	114.8	115.9	117.9	119.5	119.7	118.9	118.5	116.6	
370. SIDELINE										
PNL	107.7	109.0	110.1	112.1	113.7	114.1	113.3	112.9	111.0	
800. SIDELINE										
PNL	99.9	101.2	102.3	104.4	106.2	106.7	105.9	105.6	103.6	
2128. SIDELINE										
PNL	89.4	90.8	91.8	94.0	95.8	96.3	95.6	95.4	93.4	

STAND XARF RIG ID VT=31 TEST DATE 05/20/76 SCALE RATIO 22.5/1 RUN NUMBER 3631 CONDITION 3631

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP 77.0(F) 25.0(C)	AREA	SQFT	13.67	0.0	SQM	1.270	0.0	MASS FLOW	LB/S	830.2	0.0	KG/S	376.6	0.0
PRES 25.00IN 0.85BAR	P.R.		1.62	0.0		1.82	0.0	THRUST,IDL	LB	39991.2	0.0	N	*******	0.0
WIND D	TEMP	(R)	1262.0	0.0	(K)	701.1	0.0	THRUST,MEA	LB		0.0	N		0.0
WIND V 0MPH 0.0M/S	RHO	LB/FT3	0.037	0.0	KG/M3	0.594	0.0	AREA (MOD)	SQFT	0.03	0.0	SQM	0.003	0.0
REL H 70.0%	VEL	FPS	1551.0	0.0	M/S	472.7	0.0	W (MODEL)	LB/S	1.6	0.0	KG/S	0.7	0.0

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	98.7	97.1	97.5	101.6	104.1	105.3	109.9	116.1	118.5	154.8
.063	98.6	99.8	99.3	102.8	105.1	106.7	111.8	117.3	119.0	155.9
.080	100.9	102.7	103.9	104.6	106.3	108.1	113.6	118.5	120.2	157.3
.100	101.2	101.8	103.1	105.5	106.8	108.6	113.5	119.1	120.3	157.6
.125	101.0	101.3	103.0	103.8	106.8	108.6	113.1	117.9	119.9	156.9
.160	100.9	101.9	102.2	105.0	107.6	109.8	112.4	117.5	119.3	156.6
.200	100.5	101.6	102.3	104.8	107.4	109.9	112.2	115.1	117.9	155.4
.250	99.3	100.9	102.0	104.5	106.9	109.7	111.3	113.7	116.0	154.3
.315	99.6	100.2	101.6	104.2	107.4	110.0	110.7	112.6	113.8	153.6
.400	99.1	100.2	101.0	103.9	106.9	109.2	109.6	110.7	111.5	152.4
.500	98.1	99.0	100.5	103.0	105.9	107.9	108.1	108.7	109.1	150.9
.630	97.7	98.7	99.8	102.7	105.4	107.3	107.0	107.0	107.3	149.9
.800	96.9	97.6	98.9	101.4	104.2	106.0	105.3	104.6	104.8	148.4
1.00	96.1	97.4	98.6	101.1	104.2	104.9	104.3	103.7	103.4	147.7
1.25	95.6	96.9	97.8	100.3	103.1	103.6	102.8	102.0	101.7	146.6
1.60	95.6	96.6	98.0	100.2	102.5	103.0	101.9	101.2	100.9	146.0
2.00	95.5	96.3	97.8	100.4	102.2	102.2	101.3	100.5	99.9	145.6
2.50	95.1	96.1	97.7	99.7	101.7	101.6	100.4	99.9	98.9	145.0
3.15	95.2	95.7	97.0	99.5	101.1	101.1	100.0	99.1	99.0	144.5
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
									OAPWL =	166.3
OSPL	111.5	112.4	113.4	115.8	118.3	120.1	122.6	126.8	128.5	
PNL	119.0	119.8	121.0	123.5	125.6	126.5	126.9	128.7	130.1	
200. SIDELINE										
PNL	115.8	117.0	118.4	120.7	122.4	122.6	121.8	122.2	121.4	
370. SIDELINE										
PNL	109.9	111.1	112.5	114.8	116.5	116.6	116.0	116.6	115.7	
800. SIDELINE										
PNL	101.7	103.1	104.6	106.7	108.6	108.9	108.7	109.3	108.3	
2128. SIDELINE										
PNL	90.2	91.7	93.0	95.4	97.5	98.4	98.3	99.1	97.8	

Configuration 2
0.75 Area Ratio Coannular Nozzle

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=21 TEST DATE 05/03/76 SCALE RATIO 0.0/1 RUN NUMBER 3318 CONDITION 3318

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
	P.R.		1.53	1.80		1.53	1.80	THRUST,IDL	LB	28.4	29.5	N	126.4	131.1	
-	TEMP	(R)	708.0	737.7	(K)	393.3	409.8	THRUST,MEA	LB		0.0	N		0.0	
	RHO	LB/FT3	0.064	0.064	KG/M3	1.018	1.023	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001	
	VEL	FPS	983.5	1172.0	M/S	299.8	357.2	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4	

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	66.4	65.4	68.5	71.0	70.8	69.7	71.2	74.7	85.3	92.1
.125	67.0	69.5	72.6	72.9	73.8	74.7	75.3	77.4	85.5	93.9
.160	68.9	72.2	74.0	75.4	75.7	75.1	74.9	79.6	86.7	95.3
.200	72.5	75.2	75.3	78.1	77.3	77.5	79.8	80.8	86.5	97.0
.250	74.6	77.7	78.8	78.3	80.2	81.0	80.5	86.3	88.2	99.7
.315	77.6	79.9	81.1	81.4	82.3	81.7	82.9	86.7	93.9	102.4
.400	81.6	82.6	82.0	82.0	82.1	82.1	86.2	89.3	95.5	104.2
.500	82.5	81.8	82.7	82.1	84.3	86.6	90.4	93.2	95.5	106.3
.630	81.2	83.1	83.9	85.4	87.1	86.9	90.5	95.1	100.1	108.8
.800	83.7	84.5	85.2	87.8	89.7	89.6	91.6	97.3	100.6	110.2
1.00	85.3	84.3	87.1	88.2	89.5	90.4	93.0	97.4	101.5	110.8
1.25	84.4	85.9	87.4	88.8	90.0	91.3	94.4	98.1	100.9	111.2
1.60	84.2	85.6	86.8	88.3	90.6	92.1	94.2	97.7	99.7	110.9
2.00	85.7	87.0	87.6	89.0	91.3	92.5	95.0	98.1	98.6	111.2
2.50	86.6	87.0	87.5	89.6	91.7	92.7	95.0	97.6	97.1	111.0
3.15	86.4	87.3	88.3	90.3	92.4	93.4	95.5	97.1	96.1	111.0
4.00	87.0	87.7	88.5	90.4	92.6	93.9	95.6	97.0	95.1	111.1
5.00	87.5	88.7	89.1	91.2	92.9	94.3	95.9	96.2	94.6	111.2
6.30	87.0	87.9	89.3	90.9	92.7	94.1	95.3	95.4	94.1	110.8
8.00	87.7	88.0	89.2	91.0	93.1	94.3	95.1	95.2	93.3	110.9
10.0	87.7	88.5	89.1	90.9	93.0	94.0	94.7	94.8	92.4	110.6
12.5	87.6	88.3	89.4	91.0	93.1	93.9	94.4	93.9	92.0	110.4
16.0	87.7	88.5	89.2	90.9	93.0	93.8	93.9	93.3	91.3	110.1
20.0	87.5	88.1	89.0	90.3	92.6	93.0	92.9	92.1	89.9	109.4
25.0	87.7	88.5	89.1	90.6	92.8	92.9	92.3	91.7	89.5	109.4
31.5	88.0	88.6	89.5	90.7	92.7	92.6	91.9	90.9	88.6	109.2
40.0	88.3	88.7	89.6	90.7	92.3	92.3	91.3	89.8	87.9	108.9
50.0	88.4	88.7	89.6	91.1	92.2	91.7	91.0	89.3	87.1	108.8
63.0	88.1	89.0	89.7	90.6	91.9	91.4	90.4	89.1	87.0	108.5
80.0	88.6	88.9	89.7	90.8	92.0	91.3	90.5	89.1	87.3	108.6
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6

OSPL 100.6 101.3 102.2 103.7 105.5 106.2 107.3 109.0 110.3

OAPWL = 123.9

V_∞ =	21	fps
T_a =	76	°F
RH_a =	25	%
P_a =	14.80	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT= TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3319 CONDITION 3319

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.53		1.53	1.53	THRUST,IDL	LB	28.1	20.1	N	125.0	89.4
TEMP	(R)	704.8	739.0	(K)	391.6	410.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.061	KG/M3	1.023	0.976	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	983.4	1011.0	M/S	299.7	308.2	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	65.1	64.3	66.8	69.1	69.2	67.8	69.3	72.7	83.3	90.1
.125	65.3	68.0	70.8	71.0	72.0	72.6	73.4	75.4	83.5	92.0
.160	66.8	70.6	72.1	73.6	73.8	73.4	73.1	77.9	84.4	93.4
.200	70.3	73.6	73.5	76.0	75.5	75.7	77.8	78.8	84.5	95.0
.250	72.6	75.9	77.0	76.5	78.2	79.2	78.7	84.3	86.0	97.8
.315	75.5	77.8	79.5	79.6	80.5	79.8	81.1	84.8	92.0	100.6
.400	79.8	80.6	80.2	80.4	80.3	80.4	84.5	87.6	93.5	102.3
.500	80.6	80.0	80.8	80.4	82.3	84.5	88.3	91.3	93.2	104.3
.630	79.2	81.0	81.9	83.2	85.2	86.8	88.4	92.8	97.9	106.6
.800	81.8	82.8	83.4	85.8	87.8	87.8	89.4	95.2	98.4	108.1
1.00	83.2	82.3	85.1	86.1	87.5	88.5	90.9	95.2	99.4	108.7
1.25	82.6	83.9	85.4	86.6	87.9	89.3	92.1	96.0	99.0	109.1
1.60	82.2	83.4	84.9	86.3	88.6	90.0	91.8	95.4	97.9	108.7
2.00	83.6	84.9	85.5	86.8	89.1	90.5	92.5	95.7	96.7	109.0
2.50	84.2	84.5	85.2	87.1	89.3	90.3	92.4	95.4	95.0	108.6
3.15	84.0	85.1	85.8	87.7	89.8	90.6	92.6	94.6	93.8	108.4
4.00	84.8	85.2	85.9	87.7	90.1	91.0	92.5	94.2	92.3	108.3
5.00	85.0	86.0	86.6	88.4	89.9	91.1	92.5	92.8	91.2	108.1
6.30	84.4	85.3	86.4	87.8	89.6	90.6	91.5	91.6	89.9	107.4
8.00	85.1	85.3	86.5	87.7	89.8	90.4	91.1	91.0	88.5	107.2
10.0	84.9	85.7	86.1	87.5	89.5	89.9	90.2	90.2	87.1	106.7
12.5	84.4	85.1	86.1	87.6	89.3	89.4	89.7	88.8	86.3	106.2
16.0	84.7	85.3	85.8	87.6	89.2	89.1	88.8	87.9	85.6	105.9
20.0	85.0	85.3	86.2	86.9	88.5	88.1	87.8	86.4	84.0	105.2
25.0	85.5	86.0	86.4	87.1	89.2	88.0	87.0	86.1	83.7	105.4
31.5	85.7	86.5	86.7	87.6	89.0	87.6	86.6	85.3	82.6	105.3
40.0	86.6	86.8	87.3	87.7	89.0	87.6	86.2	84.8	82.2	105.5
50.0	86.7	86.6	87.2	88.3	88.9	87.2	86.1	84.4	81.9	105.5
63.0	86.0	86.7	87.3	87.8	88.6	87.2	85.7	84.5	82.4	105.2
80.0	86.1	86.2	87.0	87.8	88.9	87.2	86.1	84.7	83.2	105.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	98.3	98.9	99.6	100.8	102.5	102.8	103.9	106.1	107.9	

V_∞ =	21	fps
T_a =	79	°F
RH_a =	24	%
P_a =	14.80	psia

OAPWL = 120.9

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=21 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3324 CONDITION 3324

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.51	1.30		1.51	1.30	THRUST,IDL	LB	28.4	12.1	N	126.2	53.9
TEMP	(R)	649.0	727.0	(K)	360.6	403.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.069	0.059	KG/M3	1.109	0.948	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	932.4	795.7	M/S	284.2	242.5	W (MODEL)	LB/S	1.0	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.1	61.9	64.1	66.7	66.6	65.4	66.8	70.3	79.4	86.9
.125	62.7	65.8	68.3	68.7	69.8	70.2	70.9	72.8	79.4	89.0
.160	64.4	68.4	69.5	71.2	71.4	71.1	70.5	75.0	80.7	90.5
.200	68.2	71.6	71.1	73.8	73.0	73.4	75.4	76.3	80.8	92.4
.250	70.3	73.9	74.6	74.1	75.9	76.7	75.9	81.4	82.8	95.1
.315	73.3	75.8	76.7	77.1	77.8	77.4	78.3	81.9	89.0	97.8
.400	77.2	78.2	77.6	77.7	77.8	77.7	81.3	84.5	90.0	99.3
.500	78.2	77.6	78.3	78.1	80.0	82.1	85.4	87.9	90.0	101.3
.630	76.8	78.5	79.4	80.8	82.5	83.7	85.2	89.5	94.6	103.5
.800	79.5	80.0	80.7	83.0	84.8	84.7	86.1	91.5	94.7	104.7
1.00	80.6	79.7	82.2	83.2	84.6	85.2	87.5	91.6	95.8	105.3
1.25	79.8	81.0	82.6	83.6	84.9	86.2	88.7	92.4	95.5	105.8
1.60	79.8	80.8	82.1	83.3	85.6	86.8	88.4	92.0	94.7	105.5
2.00	80.8	82.1	82.8	84.0	86.3	87.3	89.0	92.3	93.6	105.8
2.50	81.4	81.6	82.2	84.2	86.1	87.0	88.8	91.9	92.1	105.3
3.15	81.0	82.1	82.8	84.7	86.5	87.1	89.1	91.2	90.8	105.1
4.00	81.6	82.1	82.7	84.5	86.6	87.3	88.8	90.9	89.2	104.9
5.00	82.0	82.8	83.1	84.9	86.3	87.3	88.6	89.5	87.5	104.5
6.30	81.8	82.4	83.3	84.5	86.1	86.7	87.5	88.1	85.7	103.8
8.00	82.4	82.5	83.2	84.4	86.0	86.2	86.6	86.9	83.6	103.4
10.0	82.3	82.8	83.0	83.9	85.4	85.2	85.7	85.7	82.0	102.7
12.5	82.1	82.4	83.1	84.1	85.5	85.0	84.9	84.0	80.5	102.3
16.0	82.7	83.0	83.4	84.6	85.7	84.4	83.6	82.5	79.3	102.2
20.0	83.4	83.4	83.4	84.3	85.3	83.7	82.4	81.0	77.7	101.8
25.0	83.8	84.0	84.8	84.7	85.9	84.0	81.7	80.7	77.4	102.3
31.5	84.4	85.2	84.8	85.4	86.0	84.0	81.6	80.0	76.6	102.6
40.0	84.8	85.4	85.2	85.4	85.9	83.5	80.7	79.2	76.3	102.6
50.0	85.0	84.5	85.0	85.6	85.3	83.2	80.7	78.8	75.8	102.3
63.0	83.4	83.6	84.0	84.2	84.4	82.3	79.8	78.5	75.6	101.3
80.0	82.8	82.4	82.8	83.4	83.7	82.2	79.9	78.4	75.6	100.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	95.9	96.3	96.9	97.8	99.1	99.1	100.0	102.5	104.4	

OAPWL = 117.5

V_∞ =	21	fps
T_a =	71	°F
RH_a =	26	%
P_a =	14.80	psia

STAND XARF RIG ID VT=38 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3340 CONDITION 3340

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.21		1.52	3.21	THRUST,IDL	LB	28.2	72.0	N	125.5	320.4
TEMP	(R)	736.7	1073.0	(K)	409.3	596.1	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.061	0.051	KG/M3	0.977	0.816	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	998.2	1917.0	M/S	304.3	584.3	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.8	71.7	74.6	77.5	77.5	76.9	78.2	81.4	88.9	97.3
.125	74.5	75.7	79.0	79.4	78.9	80.2	81.5	83.9	90.5	99.7
.160	76.4	79.2	81.4	82.1	81.6	81.7	81.9	86.8	92.7	101.9
.200	78.7	81.0	82.3	84.9	84.1	85.6	87.3	87.2	93.1	103.9
.250	81.8	84.4	85.7	86.7	88.4	88.9	89.3	94.0	94.7	107.3
.315	86.1	89.3	89.4	89.6	89.9	89.9	90.5	94.7	101.7	110.4
.400	90.4	89.9	89.6	89.7	88.6	89.7	94.0	96.4	104.3	112.1
.500	92.0	90.4	90.4	90.7	91.3	94.2	97.7	101.6	104.2	114.5
.630	86.1	91.1	91.3	92.6	93.8	96.3	98.9	102.2	108.5	116.6
.800	92.2	94.0	94.3	95.3	97.2	97.7	99.8	105.4	109.7	118.6
1.00	91.9	91.4	93.3	95.0	96.5	98.0	101.5	106.2	110.4	119.2
1.25	91.6	92.4	93.8	95.6	97.1	99.9	102.7	106.8	109.6	119.5
1.60	92.4	93.7	94.5	96.9	99.3	100.7	103.7	107.0	108.3	119.8
2.00	93.4	94.2	95.0	97.2	99.3	101.7	105.0	107.4	107.6	120.3
2.50	94.6	95.0	95.6	98.3	100.3	102.4	105.9	107.3	106.9	120.6
3.15	94.8	95.6	96.6	98.9	100.9	103.7	106.9	107.3	106.7	121.1
4.00	96.4	96.7	97.6	100.0	102.4	105.6	107.7	108.3	107.0	122.2
5.00	97.1	98.0	98.6	101.1	103.1	106.4	108.4	108.0	107.9	122.8
6.30	97.3	97.9	98.9	101.2	103.7	107.0	108.5	108.6	108.9	123.3
8.00	98.4	98.5	99.7	101.8	104.6	107.9	109.1	109.4	110.2	124.1
10.0	99.1	99.3	100.0	102.6	105.2	108.3	109.7	110.0	111.3	124.7
12.5	100.2	100.3	100.7	103.1	105.4	108.0	110.0	110.3	112.5	125.0
16.0	105.6	103.2	102.0	103.5	105.7	107.9	110.5	110.9	112.8	125.7
20.0	110.6	107.5	103.5	103.3	105.6	107.3	110.9	110.7	111.1	126.3
25.0	109.8	110.2	107.5	104.9	106.2	107.1	111.6	111.1	110.2	127.3
31.5	107.1	108.1	109.3	107.8	107.0	107.1	112.7	110.0	109.0	127.3
40.0	109.1	108.0	108.3	110.0	109.5	108.1	113.4	109.9	109.2	128.1
50.0	110.0	110.0	109.1	110.6	111.6	109.8	111.8	110.2	109.4	128.8
63.0	110.1	110.4	110.7	111.0	112.6	111.1	108.7	110.6	109.8	129.1
80.0	111.1	111.0	111.2	111.9	112.3	111.8	106.4	111.6	110.4	129.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	118.9	116.5	118.2	118.8	119.9	120.3	122.4	122.6	123.3	

DAPWL = 138.6

V_∞ =	38	fps
T_a =	105	°F
RH_a =	13	%
P_a =	14.73	psia

STAND XARF RIG ID VT=22 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3345 CONDITION 3345

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.49	2.49		1.49	2.49	THRUST,IDL	LB		27.2	49.7	N	120.9	221.0
TEMP	(R)		715.7	1066.3	(K)	397.6	592.4	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.062	0.048	KG/M3	1.000	0.768	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		961.9	1720.0	M/S	293.2	524.3	W (MODEL)	LB/S		0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	69.8	68.6	71.6	74.4	74.2	73.6	75.1	77.8	89.9	96.2
.125	70.8	72.8	75.7	76.4	76.4	77.8	79.0	81.0	89.2	97.4
.160	72.8	76.0	78.1	79.2	79.1	79.1	78.9	83.2	90.5	99.1
.200	76.3	78.2	79.2	81.9	81.4	82.1	84.2	84.3	90.6	100.9
.250	78.8	81.5	82.8	83.2	85.2	86.0	85.8	90.8	92.0	104.2
.315	82.1	85.1	85.4	86.0	86.4	86.5	87.6	91.5	98.2	106.9
.400	86.4	86.4	85.9	86.2	85.7	86.8	90.7	93.1	100.6	108.7
.500	88.3	87.0	86.8	87.2	87.9	90.9	94.4	97.8	100.4	110.8
.630	84.9	87.6	88.1	89.1	90.6	93.1	95.2	98.6	104.8	113.0
.800	88.7	90.1	90.8	92.1	93.6	94.1	96.2	101.5	105.6	114.8
1.00	89.0	87.9	90.0	91.5	93.0	94.7	97.8	102.1	106.2	115.2
1.25	88.4	89.3	91.0	92.8	94.1	96.3	99.1	102.8	105.5	115.8
1.60	89.1	90.4	91.3	93.6	95.8	96.9	99.9	103.0	104.5	116.0
2.00	90.2	91.2	91.9	93.6	96.1	98.2	101.1	103.6	103.9	116.6
2.50	91.8	92.3	92.7	94.9	97.1	98.9	102.1	103.6	103.2	117.1
3.15	91.7	92.4	93.5	95.7	97.7	100.3	103.1	103.5	102.8	117.5
4.00	93.2	93.5	94.3	96.6	98.9	101.9	103.7	104.4	102.9	118.4
5.00	93.8	94.7	95.2	97.8	99.7	103.0	104.7	104.2	103.6	119.2
6.30	93.6	94.4	95.7	98.0	100.2	103.4	104.7	104.5	104.1	119.5
8.00	94.7	95.1	96.2	98.5	101.1	104.3	105.3	105.3	104.5	120.2
10.0	95.1	95.6	96.4	99.0	101.5	104.6	105.6	105.5	104.8	120.5
12.5	94.4	95.2	96.5	99.0	101.5	104.0	105.6	105.2	105.4	120.3
16.0	94.5	95.0	96.3	98.9	101.5	104.0	106.0	105.0	105.9	120.4
20.0	94.3	94.7	95.6	98.0	100.8	102.9	105.7	104.2	105.4	119.7
25.0	96.0	95.4	95.6	98.0	101.1	102.3	105.8	104.4	105.3	119.8
31.5	99.8	97.6	96.1	97.5	100.2	101.6	106.6	103.7	103.7	119.8
40.0	101.4	100.6	98.5	98.2	100.1	101.2	106.3	103.0	103.1	120.1
50.0	100.4	100.7	100.6	100.4	100.2	101.3	103.6	102.4	102.6	119.7
63.0	99.9	100.4	100.7	101.4	101.6	101.7	99.6	102.2	102.4	119.4
80.0	101.6	101.2	101.2	102.2	102.7	102.5	96.9	102.7	102.9	120.0
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	109.7	109.6	109.8	111.2	113.0	115.0	117.1	117.2	118.1	OAPWL = 132.3

V_∞ =	22	fps
T_a =	102	°F
RH_a =	26	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3346 CONDITION 3346

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	1.80		1.53	1.80	THRUST,IDL	LB		28.5	28.7	N	126.9	127.5
TEMP	(R)		728.0	1078.0	(K)	404.4	598.9	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.062	0.043	KG/M3	0.990	0.696	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		998.5	1420.0	M/S	304.3	432.8	W (MODEL)	LB/S		0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	66.1	64.8	68.1	71.1	71.1	70.5	71.9	75.0	86.3	92.7
.125	67.3	69.6	72.7	73.4	73.5	74.6	75.8	77.7	86.3	94.4
.160	69.6	73.0	75.1	76.0	75.9	75.9	76.0	80.1	87.6	96.1
.200	72.8	75.0	76.2	78.7	77.9	78.8	81.1	81.2	87.5	97.8
.250	75.2	78.0	79.5	79.6	81.6	82.4	82.7	87.6	88.7	100.9
.315	78.3	81.2	81.7	82.4	82.9	83.0	84.4	87.6	94.6	103.3
.400	82.7	82.7	82.4	82.9	82.5	83.6	87.4	89.4	96.8	105.0
.500	84.4	83.2	83.4	83.8	84.6	87.2	90.8	94.0	96.4	107.1
.630	81.6	83.9	84.4	85.7	87.2	89.5	91.6	94.7	100.6	109.1
.800	85.1	86.8	87.2	88.5	90.2	90.6	92.3	97.3	101.3	110.8
1.00	85.4	84.7	86.8	88.6	89.9	91.1	94.1	97.9	101.9	111.3
1.25	84.9	85.9	87.3	89.2	90.6	92.7	95.2	98.4	101.1	111.7
1.60	85.7	87.0	88.0	90.3	92.2	93.3	95.7	98.3	100.1	111.9
2.00	87.0	87.7	88.5	90.4	92.6	94.3	96.5	98.7	99.3	112.3
2.50	88.2	88.4	89.2	91.4	93.2	94.6	97.1	98.5	98.2	112.5
3.15	87.9	88.8	89.9	91.9	93.7	95.7	97.8	97.9	97.2	112.6
4.00	89.3	89.5	90.4	92.5	94.6	96.7	98.0	98.3	96.8	113.2
5.00	89.4	90.5	91.2	93.5	95.2	97.3	98.5	97.4	96.6	113.5
6.30	89.1	89.9	91.4	93.5	95.3	97.4	98.2	97.3	96.4	113.4
8.00	89.9	90.2	91.6	93.7	95.9	97.9	98.3	97.3	96.0	113.7
10.0	90.0	90.5	91.5	93.9	96.2	97.8	98.2	97.1	95.7	113.7
12.5	89.1	90.0	91.3	93.6	95.8	97.3	97.9	96.6	95.7	113.3
16.0	88.9	89.6	91.0	93.4	95.7	97.1	98.1	96.0	95.4	113.1
20.0	88.3	88.9	90.1	92.5	94.7	95.9	97.5	94.6	93.9	112.1
25.0	87.6	88.3	89.7	92.0	94.7	95.2	97.5	93.9	93.4	111.8
31.5	87.1	88.2	89.4	91.5	93.8	94.3	98.3	92.8	91.8	111.5
40.0	87.3	88.1	89.4	91.4	93.5	93.9	98.0	91.8	91.1	111.2
50.0	87.7	86.3	89.7	91.9	93.2	93.8	95.3	91.0	90.4	110.4
63.0	88.0	89.1	90.3	92.1	93.6	93.7	91.6	90.9	90.2	109.9
80.0	89.8	90.0	91.4	93.2	94.5	94.5	89.1	91.7	91.0	110.6
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	101.6	102.3	103.4	105.5	107.4	108.8	110.3	110.1	111.4	

OAPWL = 125.7

V_∞ =	22	fps
T_a =	100	°F
RH_a =	21	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=21 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3349 CONDITION 3349

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.54	3.21		1.54	3.21	THRUST,IDL	LB	28.4	72.7	N	126.4	323.6
TEMP	(R)	691.7	725.7	(K)	384.3	403.2	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.076	KG/M3	1.045	1.221	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	983.6	1572.0	M/S	299.8	479.1	W (MODEL)	LB/S	0.9	1.5	KG/S	0.4	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.2	72.4	74.3	76.8	76.4	75.7	77.3	80.5	88.2	96.6
.125	73.8	75.5	78.0	78.4	78.4	79.8	80.8	82.8	89.1	98.7
.160	75.1	78.1	80.1	81.5	81.6	81.2	80.7	85.0	91.0	100.7
.200	78.4	80.8	81.5	84.4	83.6	83.6	86.1	86.1	91.1	102.7
.250	81.0	83.5	84.6	85.4	87.2	88.4	86.9	92.3	93.5	106.0
.315	84.6	87.2	87.6	88.0	88.3	88.1	89.4	92.3	99.7	108.5
.400	89.3	88.6	88.0	88.5	87.6	88.5	91.8	94.6	102.0	110.3
.500	90.2	89.2	88.9	89.4	90.2	92.8	96.0	99.4	102.3	112.6
.630	87.5	90.1	90.2	91.4	92.4	94.4	96.3	100.7	106.8	114.9
.800	90.8	91.7	92.1	93.5	95.5	95.3	97.6	103.4	107.7	116.6
1.00	91.1	89.8	91.7	93.3	94.5	95.9	99.1	104.0	108.5	117.1
1.25	90.3	90.9	92.3	94.1	95.3	97.3	100.1	104.5	107.6	117.3
1.60	91.2	92.0	92.6	94.8	97.0	97.9	100.8	104.5	106.4	117.4
2.00	91.8	92.5	93.1	95.0	97.1	98.9	101.8	104.9	105.5	117.7
2.50	93.1	93.1	93.6	96.0	97.8	99.3	102.4	104.8	104.6	117.9
3.15	92.9	93.6	94.4	96.6	98.4	100.5	103.5	104.6	104.1	118.3
4.00	94.2	94.4	95.0	97.3	99.4	101.7	104.0	105.4	104.0	119.0
5.00	95.1	95.8	96.1	98.3	99.9	102.5	105.1	105.3	104.5	119.6
6.30	95.0	95.6	96.5	98.5	100.4	102.7	105.2	105.2	105.2	119.8
8.00	96.4	96.3	97.1	98.8	101.2	103.6	105.5	106.1	105.7	120.5
10.0	97.9	97.5	97.7	99.5	101.6	103.5	105.5	106.5	106.5	120.8
12.5	102.1	100.0	99.6	100.9	101.9	103.5	105.4	106.0	106.5	121.2
16.0	109.8	105.7	102.2	101.6	102.3	103.8	105.6	105.2	106.0	123.1
20.0	110.9	110.2	105.1	101.5	101.8	102.9	105.3	103.9	105.2	124.5
25.0	107.5	108.8	109.0	105.6	103.4	102.8	105.6	103.8	105.0	124.8
31.5	106.0	105.7	106.4	108.1	105.9	103.8	107.3	102.9	103.8	124.3
40.0	107.4	106.5	105.0	106.0	107.7	105.2	107.4	102.5	103.1	124.4
50.0	106.4	106.6	106.3	105.8	106.9	106.7	105.4	102.4	102.5	124.3
63.0	106.2	106.6	106.4	106.6	106.5	107.0	102.0	102.4	102.4	124.2
80.0	107.0	107.0	107.1	107.1	107.0	106.5	96.5	102.9	102.7	124.4
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	117.4	116.9	115.9	115.8	116.1	116.4	117.6	117.9	119.2	OAPWL = 135.1

V_∞ =	21	fps
T_a =	83	°F
RH_a =	47	%
P_a =	14.73	psia

STAND XARF RIG ID VT=21 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3350 CONDITION 3350

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.52		1.52	2.52	THRUST,IDL	LB	27.9	50.9	N	124.0	226.3
TEMP	(R)	677.2	704.3	(K)	376.2	391.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.066	0.073	KG/M3	1.063	1.176	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	954.7	1400.0	M/S	291.0	426.7	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	68.5	67.7	71.1	73.6	73.3	72.9	74.5	77.4	90.6	96.4
.125	69.6	71.7	74.6	75.4	75.7	77.0	77.6	79.4	90.4	97.3
.160	71.2	74.8	76.8	78.3	78.2	77.9	77.3	81.6	90.2	98.2
.200	75.4	77.7	78.7	80.9	80.2	80.4	82.6	82.6	89.5	99.7
.250	77.7	80.6	82.0	81.9	83.4	85.0	83.5	88.6	90.7	102.6
.315	80.9	83.9	84.2	84.5	84.7	84.8	85.8	88.7	96.3	105.1
.400	85.3	85.2	84.5	84.9	84.3	85.1	88.0	90.7	98.4	106.6
.500	86.3	85.6	85.5	85.6	86.5	89.0	92.5	95.3	98.0	108.7
.630	83.7	86.4	86.5	87.7	88.9	90.7	92.5	96.2	102.4	110.7
.800	87.2	88.2	88.3	90.1	91.8	91.9	93.4	98.7	102.9	112.2
1.00	87.2	86.6	88.2	89.9	90.9	92.1	95.0	99.2	103.8	112.7
1.25	86.4	87.7	88.8	90.7	91.8	93.6	96.1	99.9	103.1	113.1
1.60	87.5	88.7	89.4	91.4	93.5	94.4	96.5	99.9	102.3	113.3
2.00	88.7	89.4	90.1	91.8	93.6	95.2	97.7	100.6	101.6	113.8
2.50	89.8	90.1	90.5	92.6	94.3	95.5	98.1	100.6	100.8	114.0
3.15	89.6	90.5	91.1	93.1	94.8	96.6	99.0	100.4	100.2	114.3
4.00	90.8	91.2	91.7	93.6	95.6	97.7	99.5	100.8	100.0	114.8
5.00	91.5	92.3	92.6	94.8	96.0	98.3	100.4	100.5	100.2	115.3
6.30	91.4	92.0	92.8	94.8	96.4	98.5	100.5	100.3	100.3	115.4
8.00	92.6	92.7	93.4	95.2	97.2	99.3	100.7	100.7	100.1	115.9
10.0	92.8	93.2	93.5	95.3	97.4	99.2	100.6	100.5	99.9	115.9
12.5	92.4	92.9	93.5	95.4	97.3	99.0	100.6	100.1	99.7	115.7
16.0	93.6	93.3	93.6	95.5	97.4	99.0	100.8	99.5	99.3	115.7
20.0	95.7	94.2	93.6	94.8	96.8	98.2	100.5	97.9	98.1	115.2
25.0	101.7	99.0	95.2	95.5	97.3	97.8	100.7	97.6	97.9	116.6
31.5	104.3	102.9	99.2	96.4	96.5	97.2	101.7	96.3	96.4	118.2
40.0	103.3	103.7	102.4	99.7	97.6	97.2	101.4	95.9	95.7	119.2
50.0	101.1	101.7	102.2	102.6	100.3	98.4	99.0	95.4	95.0	119.0
63.0	101.8	101.8	101.1	102.1	102.3	100.4	95.7	95.2	94.9	119.0
80.0	102.6	102.9	102.4	102.2	102.3	102.1	93.5	96.4	95.3	119.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	111.2	110.9	110.0	110.2	110.6	111.2	112.6	112.7	114.1	

OAPWL = 129.6

V_∞ =	21	fps
T_a =	83	°F
RH_a =	37	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=21 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3351 CONDITION 3351

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.30		1.53	1.30	THRUST,IDL	LB	28.5	11.5	N	126.7	51.3
TEMP	(R)	725.0	1037.3	(K)	402.8	576.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.062	0.041	KG/M3	0.994	0.663	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	996.9	952.4	M/S	303.9	290.3	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.7	60.7	64.2	67.2	67.1	66.6	68.1	70.8	77.4	86.5
.125	63.7	66.0	69.2	69.9	69.6	70.9	71.8	73.8	79.0	89.5
.160	65.7	69.3	71.2	72.3	71.9	72.1	72.1	76.3	81.2	91.5
.200	69.0	71.2	72.4	74.8	73.9	75.1	77.0	77.3	81.9	93.5
.250	71.5	74.2	75.9	75.9	77.6	78.6	78.3	83.2	84.0	96.7
.315	74.5	77.3	78.0	78.7	79.1	79.1	80.1	83.3	90.3	99.2
.400	78.9	79.1	78.8	79.3	78.8	79.4	82.6	85.3	92.2	100.8
.500	80.7	79.9	79.8	79.9	80.6	83.0	86.8	89.6	91.7	102.9
.630	77.8	80.3	80.7	82.1	83.2	85.1	87.2	90.3	96.2	104.8
.800	81.4	82.7	83.0	84.3	86.1	86.4	87.6	92.8	96.5	106.3
1.00	81.4	80.9	83.0	84.7	85.8	86.7	89.3	93.0	97.5	106.8
1.25	80.8	81.8	83.1	84.9	86.2	88.1	90.2	93.8	97.0	107.2
1.60	81.5	82.7	83.6	85.8	87.8	88.7	90.6	93.6	96.1	107.3
2.00	82.2	83.1	83.9	85.9	87.8	89.3	91.2	93.8	95.4	107.5
2.50	83.1	83.7	84.2	86.4	88.2	89.2	91.3	93.4	94.0	107.3
3.15	82.6	83.7	84.6	86.6	88.3	89.6	91.3	92.7	92.3	107.0
4.00	83.5	83.9	84.7	86.8	88.7	89.9	91.1	92.3	90.9	106.9
5.00	83.6	84.5	84.9	87.1	88.5	89.7	90.9	90.7	89.5	106.5
6.30	83.1	83.8	84.7	86.6	87.8	88.9	89.8	89.1	87.4	105.6
8.00	84.2	84.1	84.7	86.7	88.1	88.9	89.1	88.1	85.6	105.4
10.0	84.1	84.3	84.5	86.0	87.2	87.9	88.1	86.4	83.5	104.6
12.5	83.1	83.5	83.9	85.5	86.7	86.9	87.1	84.6	82.4	103.7
16.0	82.5	82.8	82.9	85.4	86.6	86.3	86.3	83.0	80.9	103.1
20.0	82.6	82.8	83.3	84.6	85.6	84.5	85.1	80.9	78.9	102.2
25.0	82.7	82.9	83.3	84.7	85.6	84.1	84.8	80.3	77.7	102.1
31.5	82.6	82.8	83.5	84.1	85.2	83.2	85.5	78.9	76.5	101.8
40.0	83.1	83.6	83.4	84.8	84.9	83.2	85.5	78.6	76.3	102.1
50.0	83.6	84.0	84.0	85.1	84.8	83.1	83.3	78.5	76.5	102.0
63.0	83.6	83.9	84.3	85.2	85.3	83.1	79.7	78.7	77.0	101.9
80.0	84.2	83.4	84.0	85.3	85.1	83.6	76.9	79.5	78.3	101.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	96.5	96.9	97.5	99.1	100.3	100.9	102.2	103.8	106.0	

OAPWL = 118.9

V_∞ =	22	fps
T_a =	92	°F
RH_a =	21	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3354 CONDITION 3354

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	100.0	100.0	M/S	30.5	30.5	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	56.7	55.3	0.0	60.9	60.6	0.0	62.2	70.3	70.6	81.4
.125	54.6	54.4	0.0	57.1	55.3	0.0	61.0	68.8	68.0	79.3
.160	54.8	54.8	0.0	56.0	56.0	63.1	62.0	67.2	65.9	79.2
.200	55.2	56.1	0.0	57.3	57.1	65.4	63.3	64.1	62.5	79.1
.250	54.6	54.4	0.0	54.9	53.8	0.0	0.0	61.3	59.2	73.0
.315	54.5	54.3	0.0	54.8	53.5	61.7	0.0	0.0	56.4	73.5
.400	55.3	55.0	0.0	55.5	54.4	0.0	0.0	0.0	55.2	70.6
.500	55.2	54.9	0.0	55.3	54.1	0.0	0.0	0.0	55.2	70.4
.630	54.6	54.4	0.0	54.9	53.9	0.0	0.0	0.0	54.7	70.0
.800	54.2	54.0	0.0	54.4	53.6	0.0	0.0	0.1	54.2	69.6
1.00	54.5	54.3	0.1	54.8	53.7	0.0	0.1	0.1	54.5	69.9
1.25	54.4	54.3	0.1	54.6	53.5	0.0	0.1	0.1	54.3	69.8
1.60	54.3	54.1	0.1	54.6	53.7	0.0	0.1	0.1	54.4	69.7
2.00	53.9	53.7	0.0	54.3	53.3	0.0	0.0	0.0	54.0	69.4
2.50	53.6	53.5	0.0	53.9	52.8	0.0	0.0	0.0	53.8	69.1
3.15	53.5	53.7	0.1	53.6	52.7	0.1	0.1	0.1	53.6	68.9
4.00	54.0	53.6	0.1	54.2	53.4	0.1	0.1	0.1	54.0	69.3
5.00	53.7	53.4	0.1	53.9	53.0	0.1	0.1	0.1	53.9	69.0
6.30	54.3	53.8	0.1	54.5	53.8	0.1	0.1	0.1	54.6	69.7
8.00	54.5	54.0	0.1	54.6	54.0	0.1	0.1	0.1	54.8	69.9
10.0	54.2	53.6	0.2	54.3	53.9	0.2	0.3	0.2	54.4	69.5
12.5	54.1	53.5	0.4	54.5	54.3	0.5	0.5	0.3	54.8	69.7
16.0	54.3	53.6	0.6	54.5	54.6	0.8	0.8	0.6	55.0	69.8
20.0	53.9	53.8	0.6	54.6	54.4	0.6	0.6	0.6	54.5	69.8
25.0	55.3	54.6	1.2	55.3	56.1	1.1	1.2	1.6	56.0	71.0
31.5	56.1	54.8	1.5	55.4	55.8	1.3	1.5	1.3	56.0	71.0
40.0	57.0	55.8	2.0	56.2	56.2	1.9	1.9	1.9	56.4	71.8
50.0	61.2	59.0	3.7	59.9	56.4	2.9	3.2	3.1	58.9	75.0
63.0	65.7	63.7	64.6	64.1	63.0	64.3	4.9	64.3	63.4	81.9
80.0	70.8	67.7	69.1	68.8	67.2	68.9	68.0	69.1	68.2	86.9
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
									OAPWL =	91.2
OSPL	74.0	72.1	70.4	73.1	72.1	72.4	71.1	75.8	76.1	

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

STAND XARF RIG ID VT=200 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3355 CONDITION 3355

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)		0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS		200.0	200.0	M/S	61.0	61.0	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - .(MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	78.7	77.7	79.0	79.7	78.2	78.8	80.1	86.8	89.2	99.9
.125	75.8	76.2	76.4	76.2	74.1	76.9	79.2	85.3	86.9	97.8
.160	72.7	74.9	72.3	72.6	73.3	76.5	77.9	84.4	85.5	96.5
.200	73.9	75.8	73.6	72.8	73.3	75.1	76.5	83.3	83.9	95.7
.250	72.7	73.7	71.1	71.3	69.0	72.3	74.1	82.4	82.7	94.1
.315	70.4	71.8	70.1	67.4	68.0	70.1	72.3	80.9	81.4	92.4
.400	68.6	68.3	67.4	66.9	65.9	68.3	70.6	79.6	79.3	90.7
.500	68.5	68.8	67.3	65.9	65.3	66.4	66.9	77.1	77.8	89.0
.630	67.4	68.5	66.1	65.1	64.5	65.1	67.4	74.8	74.6	87.2
.800	67.9	68.6	66.3	65.5	64.5	64.3	65.9	71.8	71.9	85.9
1.00	69.4	67.6	66.6	65.6	65.5	64.6	65.2	68.4	70.2	85.2
1.25	68.0	67.8	65.6	65.0	64.3	64.3	65.0	66.8	68.6	84.4
1.60	67.5	67.5	65.4	64.9	64.4	64.4	64.8	65.6	67.5	84.0
2.00	69.2	69.5	67.3	67.2	66.2	66.2	65.4	65.3	66.9	85.6
2.50	65.1	65.9	63.6	63.3	63.1	63.1	63.5	64.5	65.0	82.5
3.15	64.0	65.6	63.0	63.3	62.9	63.2	63.4	63.4	65.3	82.0
4.00	64.9	65.2	62.5	62.8	62.8	63.1	63.2	63.5	65.2	81.9
5.00	64.0	64.7	62.3	62.9	63.0	63.3	63.0	62.8	66.0	81.7
6.30	63.6	64.5	62.4	62.6	62.5	62.9	62.8	63.2	67.0	81.6
8.00	64.5	64.8	61.9	62.7	62.7	62.8	63.2	63.4	67.5	81.9
10.0	63.7	64.0	61.5	61.9	62.0	62.1	62.6	62.0	67.1	81.1
12.5	62.5	62.9	60.4	60.9	60.9	60.4	60.8	61.3	65.8	79.9
16.0	61.3	62.7	59.5	59.4	59.3	0.7	0.7	60.3	64.6	78.0
20.0	61.0	62.7	58.7	58.4	57.8	0.6	0.6	0.6	62.5	76.8
25.0	62.0	63.7	1.1	58.0	58.2	1.0	1.1	1.5	63.5	76.8
31.5	62.5	63.4	1.4	57.8	57.6	1.3	1.4	1.3	62.8	76.5
40.0	64.3	64.3	1.9	59.2	58.3	1.9	1.9	1.9	63.0	77.6
50.0	67.5	67.3	3.5	62.2	60.8	61.6	3.0	2.9	65.1	81.0
63.0	71.2	71.2	66.2	65.9	64.7	65.6	64.9	64.7	69.4	85.9
80.0	76.5	75.0	70.2	69.8	68.8	69.4	69.3	69.0	73.7	90.1
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	85.2	85.4	84.0	84.1	83.1	84.6	86.1	92.6	94.1	

OAPWL = 105.5

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

STAND XARF RIG ID VT=340 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3356 CONDITION 3356

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	340.0	340.0	M/S	103.6	103.6	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	88.8	86.5	91.2	91.8	90.8	88.9	103.4	96.1	99.7	114.3
.125	85.8	85.8	89.2	89.1	87.9	88.4	104.2	95.0	98.2	114.3
.160	83.0	84.4	86.4	85.1	86.7	88.2	99.4	94.0	96.9	110.6
.200	84.3	85.9	86.1	85.1	86.7	86.1	97.9	92.1	94.6	109.2
.250	83.6	83.9	83.9	83.9	82.9	84.9	94.3	90.6	93.6	106.6
.315	81.0	82.3	83.4	79.9	81.8	82.6	91.9	89.6	93.1	104.9
.400	78.8	77.9	80.9	78.8	80.1	81.9	91.4	88.9	91.8	103.9
.500	78.7	78.1	80.5	78.5	78.9	80.3	90.1	87.2	90.6	102.6
.630	77.6	77.1	79.9	77.1	77.9	78.7	88.4	85.6	88.6	101.1
.800	77.8	77.0	79.0	77.1	77.5	77.6	86.8	83.3	86.5	99.6
1.00	79.0	76.5	78.8	77.2	77.4	77.0	86.1	81.4	84.6	98.8
1.25	78.2	76.9	77.9	76.8	77.0	77.0	84.6	79.6	82.1	97.7
1.60	78.8	77.0	77.8	76.9	77.4	77.1	83.5	78.0	80.2	97.1
2.00	77.2	76.8	77.7	77.0	77.2	77.2	82.5	76.7	77.6	96.5
2.50	76.6	76.6	77.0	76.1	76.4	76.4	81.8	75.8	75.7	95.8
3.15	77.8	77.5	77.3	77.2	77.4	77.1	81.8	75.3	75.1	96.2
4.00	78.7	77.5	76.8	77.2	77.5	77.1	81.5	74.8	74.4	96.1
5.00	76.0	75.7	75.2	75.5	75.8	75.3	80.2	73.1	73.5	94.5
6.30	74.8	74.5	74.7	74.6	74.9	74.5	79.6	72.5	73.8	93.7
8.00	75.0	74.1	74.1	74.1	74.6	74.3	78.2	72.6	74.6	93.2
10.0	74.5	73.8	73.5	73.9	74.4	74.0	77.5	73.1	75.6	92.8
12.5	73.2	73.0	72.9	73.6	74.1	73.4	77.1	73.1	76.1	92.4
16.0	72.4	72.0	72.1	72.7	73.2	72.6	75.6	72.6	75.4	91.4
20.0	71.0	70.7	70.2	71.0	71.4	70.8	74.7	70.9	73.5	89.9
25.0	70.7	1.3	69.2	69.9	70.9	69.7	74.1	70.4	72.9	88.7
31.5	69.9	1.3	68.2	68.4	69.3	68.3	73.4	68.6	2.2	87.1
40.0	70.0	2.4	67.3	68.3	68.9	67.5	72.9	68.0	2.8	86.7
50.0	72.2	4.0	68.8	70.0	70.2	66.2	75.9	69.4	4.0	88.7
63.0	76.1	75.8	71.6	72.7	73.6	71.2	79.7	72.9	76.8	93.3
80.0	80.8	79.6	75.5	76.9	77.2	75.1	84.5	77.4	80.3	97.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	94.9	94.4	96.6	96.2	96.1	96.0	108.7	102.0	105.2	

OAPWL = 119.7

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF, RIG ID VT=425 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3357 CONDITION 3357

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	0.0		0.0	0.0	THRUST,IDL	LB	0.0	0.0	N	0.0	0.0
TEMP	(R)	0.0	0.0	(K)	0.0	0.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.0	0.0	KG/M3	0.0	0.0	AREA (MOD)	SQFT	0.0	0.0	SQM	0.0	0.0
VEL	FPS	425.0	425.0	M/S	129.5	129.5	W (MODEL)	LB/S	0.0	0.0	KG/S	0.0	0.0

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	94.6	93.4	96.2	98.4	96.9	94.8	108.7	102.7	107.2	126.1
.125	91.9	92.8	95.5	96.3	94.7	94.9	110.0	102.3	106.1	120.5
.160	89.5	91.5	91.0	91.9	93.5	94.9	104.9	101.1	104.5	116.8
.200	90.3	92.2	90.3	91.5	92.8	92.9	103.4	99.2	102.2	115.3
.250	89.1	90.7	88.3	90.1	89.3	91.3	99.6	97.9	101.6	112.9
.315	86.5	88.8	86.8	86.6	87.9	89.0	97.6	96.7	101.1	111.4
.400	85.6	85.3	83.9	85.6	86.5	88.6	96.6	95.7	101.4	110.6
.500	84.4	85.3	83.4	84.5	85.6	87.4	96.0	94.4	98.7	109.2
.630	83.3	83.8	82.6	83.6	84.6	86.1	94.2	93.0	96.4	107.6
.800	83.4	83.3	82.4	83.2	84.0	84.8	92.9	91.7	94.9	106.4
1.00	84.5	82.8	82.5	83.3	83.5	84.0	91.6	90.1	93.1	105.3
1.25	83.9	83.0	82.3	82.9	83.3	83.5	90.5	88.4	91.3	104.3
1.60	83.3	82.9	82.4	83.1	83.6	83.5	89.9	86.7	89.2	103.6
2.00	83.1	83.0	82.6	83.3	83.7	83.7	88.5	84.8	86.5	102.9
2.50	83.1	83.1	82.3	82.9	83.2	83.0	88.2	84.1	83.9	102.4
3.15	82.9	83.2	82.2	82.9	83.4	83.3	87.6	83.1	82.1	102.1
4.00	83.9	83.4	82.7	83.3	83.8	83.7	86.8	83.1	81.0	102.1
5.00	83.5	83.2	82.3	83.3	83.4	82.9	85.9	81.4	80.2	101.6
6.30	81.5	81.1	80.6	81.5	81.8	81.2	84.4	81.0	79.4	100.0
8.00	81.5	80.8	80.1	81.1	81.6	81.2	82.3	79.2	79.1	99.3
10.0	80.8	80.2	79.5	80.5	81.0	80.6	82.6	79.3	80.1	98.9
12.5	79.5	79.2	79.0	80.0	80.4	79.5	82.1	79.5	80.9	98.3
16.0	79.1	78.6	78.4	79.4	79.9	79.2	81.8	79.9	80.9	98.0
20.0	77.6	77.3	77.0	78.1	78.4	77.8	80.8	78.9	79.8	96.7
25.0	76.7	76.4	76.1	76.9	77.8	76.7	79.6	77.8	78.9	95.7
31.5	75.7	75.3	74.9	75.4	76.1	75.5	78.0	77.1	77.3	94.3
40.0	75.3	75.0	74.2	74.8	75.0	74.4	77.6	75.8	76.8	93.7
50.0	76.1	75.8	74.4	75.0	74.5	73.8	79.6	76.0	77.8	94.3
63.0	78.7	78.6	76.3	76.3	75.9	75.2	83.7	78.2	80.5	97.0
80.0	83.0	81.8	79.5	79.4	78.6	78.1	87.1	83.1	84.8	100.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	100.6	101.1	101.5	102.9	102.5	102.5	114.2	109.1	113.0	OAPWL = 125.8

V	=	fps
T_a	=	°F
RH_a	=	%
P_a	=	psia

STAND XARF RIG ID VT=31 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3358 CONDITION 3358

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.51	3.20		1.51	3.20	THRUST,IDL	LB	27.6	68.9	N	122.7	306.6
TEMP	(R)		709.7	1253.3	(K)	394.3	696.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.063	0.043	KG/M3	1.013	0.693	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS		976.2	2074.0	M/S	297.5	632.2	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.3	72.4	75.0	77.8	77.5	76.8	78.2	81.3	91.7	98.6
.125	74.7	76.1	79.1	79.8	79.6	80.8	81.9	84.3	91.8	100.4
.160	77.0	79.8	81.9	82.6	82.0	82.1	82.4	87.3	93.9	102.6
.200	79.1	81.3	82.6	84.8	84.3	85.4	87.5	87.7	94.2	104.2
.250	82.0	84.2	85.0	86.4	87.9	88.5	89.8	94.3	95.6	107.5
.315	85.7	88.7	88.4	88.9	89.6	90.0	90.8	95.9	102.2	110.7
.400	90.9	90.2	89.6	89.6	89.2	90.4	94.9	97.1	106.1	113.3
.500	93.1	90.9	89.8	90.7	91.6	94.6	97.4	102.2	105.4	115.0
.630	88.5	90.1	91.4	93.1	94.3	96.4	99.0	103.2	109.2	117.1
.800	91.0	93.4	94.4	95.5	96.3	97.1	100.8	106.2	110.3	119.1
1.00	91.6	91.0	92.7	94.7	96.5	98.3	102.2	106.9	110.7	119.6
1.25	92.1	92.3	92.9	95.1	96.7	100.0	103.5	107.4	109.8	119.9
1.60	92.5	93.5	94.3	97.0	99.0	100.8	104.7	107.7	108.6	120.3
2.00	93.7	94.5	95.4	97.3	99.7	102.4	106.0	108.2	108.0	120.9
2.50	95.5	95.8	96.2	98.4	100.3	103.4	107.0	108.3	107.5	121.5
3.15	95.6	96.3	96.9	99.3	101.6	104.7	107.8	107.9	107.7	121.9
4.00	97.0	97.1	98.0	100.4	102.9	106.7	108.5	109.2	108.1	123.1
5.00	97.4	98.3	98.9	101.7	104.0	107.8	109.2	108.9	109.0	123.7
6.30	97.6	98.3	99.5	102.0	104.8	108.3	109.6	109.9	110.3	124.4
8.00	98.8	98.9	100.2	102.9	105.8	109.5	109.9	110.9	111.6	125.3
10.0	99.4	99.6	100.8	103.6	106.4	109.8	110.6	111.8	113.0	126.0
12.5	99.7	100.0	101.0	103.8	106.5	109.3	110.7	112.6	114.0	126.3
16.0	103.6	101.7	101.8	104.0	106.9	109.2	110.8	113.1	113.1	126.5
20.0	108.9	105.0	102.2	103.5	106.1	108.0	110.2	111.8	110.4	126.0
25.0	108.9	106.5	104.5	104.0	106.2	107.1	109.5	111.0	109.2	126.1
31.5	105.6	106.8	107.1	105.6	105.9	106.3	108.5	109.4	107.5	125.3
40.0	105.9	105.2	106.0	107.3	106.9	106.2	107.5	108.6	107.0	125.1
50.0	106.4	106.1	105.4	107.8	107.9	106.7	107.6	108.0	106.4	125.4
63.0	105.7	106.2	106.2	107.0	108.5	107.1	107.6	108.0	106.2	125.4
80.0	106.5	106.2	106.4	107.6	108.3	107.5	108.3	108.4	106.7	125.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
SPL	116.4	115.9	115.5	116.8	118.3	120.0	121.6	123.0	123.5	OAPWL = 137.6

V_∞ =	31	fps
T_a =	118	°F
RH_a =	26	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3364 CONDITION 3364

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	28.1	46.3	N	124.9	205.9
TEMP	(R)	699.5	1272.0	(K)	388.6	706.7	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.040	KG/M3	1.029	0.640	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	972.5	1887.0	M/S	296.4	575.2	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	69.9	68.9	72.0	75.0	74.6	74.1	75.4	78.4	89.1	95.9
.125	71.4	73.3	76.5	77.2	77.2	78.5	79.4	81.6	89.4	97.9
.160	73.7	77.0	78.9	79.8	79.3	79.6	79.5	84.1	90.9	99.7
.200	76.5	78.6	79.6	82.2	81.4	82.6	84.8	85.0	91.4	101.5
.250	79.2	81.7	82.4	83.4	85.1	85.9	87.0	91.7	92.6	104.7
.315	82.6	85.5	85.3	85.9	86.8	87.0	88.1	92.7	99.4	107.7
.400	87.3	87.2	86.5	86.6	86.3	87.8	91.6	93.9	103.8	110.6
.500	89.7	87.9	86.9	87.6	88.9	91.8	94.6	98.7	101.7	111.7
.630	85.6	87.3	88.5	90.5	91.8	93.8	95.7	99.8	105.8	113.9
.800	88.6	90.4	91.6	92.7	93.2	94.1	97.4	102.4	106.4	115.5
1.00	89.5	88.5	89.9	91.9	93.9	95.6	98.9	103.0	106.9	116.0
1.25	89.3	90.0	91.1	92.8	94.5	97.4	100.3	103.9	106.2	116.7
1.60	90.0	91.1	92.0	94.3	96.5	98.0	101.3	104.1	105.4	117.1
2.00	91.3	92.2	93.0	94.6	97.1	99.5	102.7	104.7	104.8	117.8
2.50	92.9	93.2	93.7	95.7	97.7	100.5	103.7	104.9	104.1	118.3
3.15	92.9	93.8	94.5	96.7	98.9	101.7	104.6	104.7	104.0	118.8
4.00	94.2	94.7	95.5	98.0	100.4	103.7	105.4	105.8	104.2	120.0
5.00	94.7	95.9	96.5	99.2	101.3	104.7	106.0	105.5	104.9	120.6
6.30	94.5	95.6	96.9	99.4	101.9	105.2	105.9	106.1	105.7	121.0
8.00	95.7	96.2	97.5	100.2	103.1	106.7	106.6	107.0	106.4	122.0
10.0	96.2	96.8	97.9	100.5	103.4	106.8	106.8	107.1	107.2	122.2
12.5	95.5	96.4	97.7	100.6	103.5	106.2	106.7	107.1	108.2	122.1
16.0	95.5	96.4	97.7	100.6	103.7	106.0	106.7	107.3	109.0	122.2
20.0	95.0	95.8	96.9	99.7	102.9	104.8	106.0	106.6	107.9	121.4
25.0	95.5	95.8	96.5	99.5	103.0	103.9	105.2	106.7	106.9	121.0
31.5	96.0	96.6	96.4	98.8	101.7	102.9	104.0	105.6	104.8	119.9
40.0	99.1	98.6	97.3	98.5	100.9	102.1	102.7	104.3	104.0	119.3
50.0	97.9	98.4	98.4	99.2	100.2	101.4	102.1	103.2	103.0	118.8
63.0	96.9	97.8	98.4	99.5	100.4	101.1	101.5	102.6	102.2	118.5
80.0	97.7	97.6	98.1	99.7	100.7	101.0	101.5	102.3	102.2	118.4
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	108.6	109.0	109.6	111.8	114.2	116.5	117.6	118.7	119.5	

OAPWL = 133.2

V_∞ =	31	fps
T_a =	112	°F
RH_a =	35	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3365 CONDITION 3365

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	1.81		1.53	1.81	THRUST,IDL	LB	28.8	25.7	N	128.1	114.5
TEMP	(R)		679.5	1251.7	(K)	377.5	695.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.066	0.037	KG/M3	1.062	0.598	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS		965.8	1535.0	M/S	294.4	467.9	W (MODEL)	LB/S	1.0	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	66.4	65.5	68.2	71.1	71.0	70.6	72.0	74.8	85.9	92.5
.125	67.2	69.4	72.4	73.3	73.6	75.0	75.7	77.8	86.3	94.4
.160	69.5	72.9	74.9	75.8	75.7	75.8	75.9	80.3	87.5	96.0
.200	72.8	74.9	75.9	78.1	77.6	79.1	81.0	81.2	87.2	97.6
.250	75.4	77.7	78.8	79.3	80.9	81.9	82.4	87.1	88.3	100.4
.315	78.1	80.8	81.2	81.8	82.6	82.8	83.9	87.9	94.9	103.3
.400	83.0	82.7	82.4	82.5	82.6	83.8	86.9	89.2	97.1	105.1
.500	84.8	83.4	82.9	83.8	84.7	87.2	90.3	93.8	96.3	106.9
.630	81.7	83.1	84.4	86.1	87.3	89.1	91.2	94.4	100.6	108.9
.800	84.5	86.3	87.1	88.0	89.2	90.1	92.7	96.9	100.6	110.3
1.00	85.4	84.9	86.3	88.0	89.5	91.1	94.0	97.6	101.2	110.9
1.25	85.2	86.1	86.7	88.6	90.2	92.8	95.4	98.5	100.7	111.6
1.60	85.9	87.1	87.9	90.1	92.1	93.5	96.0	98.5	100.0	112.0
2.00	87.3	88.0	88.9	90.7	92.8	94.8	97.1	99.1	99.3	112.6
2.50	88.6	89.0	89.7	91.7	93.4	95.6	97.9	99.0	98.4	113.0
3.15	88.7	89.4	90.3	92.4	94.3	96.4	98.6	98.6	97.9	113.3
4.00	89.8	90.2	91.0	93.2	95.5	97.9	99.2	99.1	97.6	114.1
5.00	90.0	91.1	91.8	94.3	96.1	98.6	99.4	98.4	97.7	114.5
6.30	89.8	90.7	91.9	94.3	96.5	98.7	99.2	98.5	97.9	114.5
8.00	90.8	91.1	92.5	94.8	97.3	99.7	99.1	99.0	97.9	115.1
10.0	90.7	91.4	92.5	94.9	97.5	99.7	99.2	98.8	97.6	115.1
12.5	89.8	90.9	92.1	94.8	97.3	98.8	98.4	98.5	97.8	114.5
16.0	89.7	90.5	91.7	94.6	97.2	98.6	97.9	98.1	97.7	114.3
20.0	89.0	89.9	91.0	93.5	96.2	97.5	96.8	96.6	96.4	113.2
25.0	88.1	89.0	90.5	93.1	96.0	96.6	95.8	96.0	96.1	112.6
31.5	87.2	88.4	89.6	92.3	94.8	95.5	94.7	94.3	94.5	111.4
40.0	87.1	88.3	89.4	91.9	94.2	94.6	93.5	93.2	93.4	110.7
50.0	87.0	88.0	89.3	91.9	93.4	94.0	93.0	92.0	92.2	110.1
63.0	86.8	88.0	89.2	91.5	93.2	93.5	92.1	91.2	91.4	109.6
80.0	87.7	88.3	89.7	91.8	93.2	93.4	92.2	91.1	91.3	109.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	101.9	102.7	103.7	106.0	108.2	109.9	110.3	111.0	111.9	

OAPWL = 126.3

V_∞ =	31	fps
T_a =	106	°F
RH_a =	27	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=21 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3370 CONDITION 3370

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	1.30		1.53	1.30	THRUST,IDL	LB	29.0	10.8	N	128.8	47.8	
TEMP	(R)		689.7	1122.0	(K)	383.2	623.3	THRUST,MEA	LB		0.0	N		0.0	
RHO	LB/FT3		0.065	0.038	KG/M3	1.046	0.612	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001	
VEL	FPS		971.4	989.3	M/S	296.1	301.5	W (MODEL)	LB/S	1.0	0.4	KG/S	0.4	0.2	

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.0	61.2	64.7	67.4	67.0	66.1	67.9	70.6	78.0	86.7
.125	64.5	66.4	69.6	70.3	69.8	71.0	71.9	73.9	79.9	89.9
.160	65.8	69.0	70.9	72.1	71.9	72.0	71.9	76.1	82.0	91.6
.200	69.2	71.4	72.3	74.5	74.1	75.1	77.1	77.3	81.6	93.5
.250	71.3	73.9	75.2	75.1	76.6	78.1	77.9	83.0	83.9	96.3
.315	73.9	76.3	77.1	77.5	78.4	78.6	79.7	83.2	90.4	98.9
.400	78.7	78.7	78.2	78.6	78.4	79.3	82.4	84.9	94.5	101.6
.500	80.3	79.1	78.9	79.6	80.6	83.2	85.6	88.9	91.4	102.3
.630	77.8	79.4	80.7	82.5	83.4	84.6	86.1	89.8	95.9	104.4
.800	80.7	82.0	82.7	83.6	84.7	85.2	87.7	91.9	95.8	105.5
1.00	81.3	80.6	82.1	83.7	85.0	86.4	88.7	92.4	96.8	106.2
1.25	81.0	81.7	82.1	84.1	85.6	87.7	89.8	93.0	96.1	106.5
1.60	81.4	82.4	83.2	85.3	87.1	88.0	90.1	92.8	95.4	106.7
2.00	82.3	82.9	83.8	85.7	87.6	89.0	90.7	93.3	94.6	107.1
2.50	83.3	83.6	84.0	86.1	87.6	89.1	91.0	93.1	93.1	107.0
3.15	82.9	83.8	84.7	86.5	88.0	89.3	91.0	92.2	91.8	106.7
4.00	83.6	84.0	84.6	86.7	88.5	89.8	90.7	92.0	90.0	106.7
5.00	83.8	84.7	85.0	87.1	88.4	89.7	90.6	90.1	88.6	106.3
6.30	83.3	84.1	85.0	86.8	88.1	89.0	89.5	88.8	87.1	105.6
8.00	84.6	84.4	85.1	87.0	88.3	89.3	88.9	88.0	85.3	105.6
10.0	84.4	84.6	84.9	86.4	87.6	88.5	87.7	86.4	83.5	104.8
12.5	83.4	83.9	84.3	85.8	87.1	87.4	86.6	84.9	82.3	103.9
16.0	83.2	83.4	83.5	85.9	87.2	86.9	85.3	83.4	81.0	103.5
20.0	83.0	83.0	83.7	85.2	86.0	85.6	83.4	81.2	78.9	102.5
25.0	82.2	82.7	83.2	84.4	85.7	84.3	81.8	80.1	77.6	101.7
31.5	82.1	82.1	82.8	83.7	84.8	83.1	80.9	78.5	75.9	100.9
40.0	81.8	82.1	82.1	83.6	83.8	82.3	79.7	77.4	75.1	100.4
50.0	81.1	81.4	81.7	82.7	82.4	80.9	78.8	76.4	74.3	99.4
63.0	80.1	80.6	81.2	82.0	82.1	80.2	78.0	75.6	73.9	98.8
80.0	80.3	79.8	80.7	81.6	81.8	80.5	78.1	75.9	74.4	98.5
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	96.1	96.5	97.1	98.8	100.0	100.7	101.6	103.2	105.6	OAPWL = 118.5

V_∞ =	21	fps
T_a =	88	°F
RH_a =	53	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3380 CONDITION 3380

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	3.25		0.0	3.25	THRUST,IDL	LB	14661.5	67.4	N	65217.3	299.9
TEMP	(R)	0.0	1279.7	(K)	0.0	710.9	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.042	KG/M3	1.046	0.681	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	2108.0	M/S	0.0	642.5	W (MODEL)	LB/S	0.0	1.0	KG/S	0.0	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.1	69.2	72.1	74.2	75.2	74.7	77.2	81.0	88.9	96.4
.125	73.1	75.1	78.1	77.4	78.1	80.0	80.9	83.9	90.4	99.2
.160	76.1	79.5	81.5	80.5	80.8	81.2	82.4	87.1	92.9	101.9
.200	78.8	81.3	82.2	82.8	82.8	85.0	86.7	87.9	93.8	103.7
.250	83.0	85.8	86.4	85.0	88.3	88.8	89.9	95.3	96.1	108.0
.315	86.9	88.9	89.2	88.2	90.3	90.9	91.9	97.3	102.7	111.4
.400	90.8	90.6	90.0	88.6	89.4	91.1	96.0	98.8	105.5	113.5
.500	94.0	91.7	90.8	90.2	92.6	95.3	98.7	104.2	105.8	116.2
.630	90.2	91.0	92.3	93.1	95.3	98.3	101.4	105.8	111.0	119.1
.800	92.6	95.2	96.6	95.6	97.8	99.7	104.2	109.8	113.2	122.0
1.00	94.1	93.7	95.2	95.3	98.7	102.0	107.0	112.3	115.7	124.4
1.25	95.5	94.8	96.2	97.2	100.5	105.2	109.8	115.1	117.5	126.8
1.60	97.8	99.0	98.6	99.9	104.6	106.3	111.8	117.1	118.5	128.5
2.00	98.9	100.4	100.8	100.5	104.6	107.9	113.4	118.7	120.0	130.1
2.50	101.3	100.8	100.9	101.1	105.4	108.5	113.4	118.9	120.2	130.3
3.15	99.9	100.3	100.4	100.5	105.3	108.8	113.2	117.8	120.1	129.7
4.00	99.5	100.1	101.0	101.6	106.3	110.2	113.1	117.2	119.3	129.4
5.00	99.7	101.1	101.3	102.3	106.5	110.4	112.7	115.6	118.9	128.7
6.30	99.4	100.4	101.3	101.9	106.2	110.2	112.4	115.2	117.5	128.2
8.00	100.1	100.0	101.5	101.8	107.0	110.6	112.2	114.9	116.1	127.9
10.0	101.4	101.0	101.7	101.9	107.1	110.4	112.1	114.5	115.1	127.6
12.5	103.2	102.2	102.5	102.3	107.1	109.6	111.3	113.9	114.5	127.1
16.0	106.8	104.3	103.1	102.4	107.0	109.1	110.7	113.1	112.9	126.7
20.0	108.9	107.0	103.9	102.1	106.7	107.8	109.4	111.3	111.1	126.0
25.0	109.0	108.2	106.0	102.7	107.2	107.3	109.0	111.2	110.1	126.3
31.5	107.1	107.6	106.7	103.9	106.5	106.6	108.2	110.1	108.9	125.5
40.0	106.4	106.7	106.7	104.3	106.9	106.6	107.6	109.4	108.9	125.3
50.0	106.7	106.5	106.4	104.7	107.4	107.0	107.6	109.3	108.4	125.4
63.0	106.6	107.2	107.1	104.8	108.1	107.9	108.1	109.6	109.0	125.9
80.0	107.9	107.8	108.1	105.8	109.2	109.0	109.2	110.9	110.5	126.9
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	117.6	117.3	116.8	115.5	119.5	121.6	124.2	128.0	129.6	

V_∞ =	31	fps
T_a =	120	°F
RH_a =	16	%
P_a =	14.73	psia

OAPWL = 140.8

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=22 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3383 CONDITION 3383

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	2.51		0.0	2.51	THRUST,IDL	LB*******	48.4		N*******	215.4	
TEMP	(R)	0.0	1320.7	(K)	0.0	733.7	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.038	KG/M3	1.046	0.616	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	1925.0	M/S	0.0	586.7	W (MODEL)	LB/S	0.0	0.8	KG/S	0.0	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	66.8	65.5	68.7	71.5	72.0	70.9	72.6	76.8	86.6	93.3
.125	69.8	72.3	75.2	75.4	75.2	76.8	77.4	80.3	87.6	96.2
.160	72.3	75.8	77.8	78.0	77.4	77.5	78.4	83.6	89.7	98.5
.200	75.9	77.9	78.5	80.4	79.3	81.4	83.4	84.3	90.2	100.2
.250	78.3	81.1	81.9	81.9	83.9	84.5	86.0	91.2	92.2	103.9
.315	81.2	83.7	84.4	84.3	85.8	86.0	87.4	92.5	98.4	106.9
.400	86.1	86.1	85.4	85.3	85.4	87.1	91.6	94.5	101.1	109.2
.500	89.4	87.1	86.3	87.2	88.8	91.2	94.5	99.5	100.9	111.6
.630	86.1	86.7	88.5	90.8	91.8	94.3	96.9	101.4	106.4	114.8
.800	88.3	90.8	93.0	93.7	93.8	95.4	99.7	105.0	108.2	117.4
1.00	90.8	90.8	91.2	92.5	95.2	98.5	102.5	107.5	111.0	119.8
1.25	92.0	92.3	93.1	95.8	97.5	101.6	105.3	110.7	112.8	122.4
1.60	94.0	95.1	94.6	97.9	100.8	102.0	107.1	112.4	113.9	124.0
2.00	94.6	96.2	96.3	98.2	101.1	103.4	108.4	114.1	115.1	125.4
2.50	96.7	96.7	96.5	98.7	100.9	104.4	108.8	114.4	115.3	125.7
3.15	95.6	96.3	96.7	98.7	101.7	104.6	109.1	113.6	114.9	125.3
4.00	95.3	95.9	97.0	99.5	102.1	106.2	109.0	113.0	113.8	125.0
5.00	95.3	96.8	97.5	100.4	102.7	106.6	108.9	111.5	113.1	124.4
6.30	94.9	96.3	97.5	100.3	102.7	106.3	108.4	110.7	111.8	123.8
8.00	95.6	95.8	97.4	100.1	103.6	106.7	108.0	110.6	110.4	123.6
10.0	95.6	96.5	97.4	100.3	103.6	106.4	107.6	109.7	109.2	123.1
12.5	95.3	96.2	97.8	100.6	103.4	105.5	107.1	109.0	108.3	122.5
16.0	95.6	96.3	97.7	101.0	103.6	105.3	106.8	108.8	108.1	122.4
20.0	96.2	96.3	97.3	100.6	103.2	104.4	105.7	108.1	107.5	121.7
25.0	98.1	97.3	97.4	100.5	103.4	103.7	105.1	108.0	107.2	121.5
31.5	99.8	98.7	98.1	100.6	102.2	103.0	103.8	106.8	106.0	120.7
40.0	100.3	99.9	99.1	100.4	101.5	102.3	103.1	105.7	105.5	120.4
50.0	99.7	99.9	99.8	101.4	101.3	102.3	102.8	105.3	104.6	120.3
63.0	99.3	99.9	100.4	101.6	101.9	102.6	102.7	105.3	104.5	120.4
80.0	100.6	100.6	101.3	102.6	103.1	103.4	103.5	106.0	105.6	121.3
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	110.2	110.4	110.9	113.1	115.2	117.5	119.9	123.6	124.6	OAPWL = 136.2

V_∞ = 22 fps
T_a = 108 °F
RH_a = 22 %
P_a = 14.73 psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3384 CONDITION 3384

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	1.81		0.0	1.81	THRUST,IDL	LB*******		26.6	N*******		118.2
TEMP	(R)	0.0	1291.3	(K)	0.0	717.4	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.036	KG/M3	1.046	0.579	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	1556.0	M/S	0.0	474.3	W (MODEL)	LB/S	0.0	0.6	KG/S	0.0	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	61.2	59.6	62.8	66.4	67.3	66.4	68.0	72.1	76.2	86.2
.125	65.0	67.4	70.2	70.2	70.1	72.0	72.6	75.3	79.1	90.3
.160	67.3	70.6	72.4	72.6	72.2	72.9	73.7	78.2	82.3	92.6
.200	71.3	73.7	73.7	74.9	74.1	76.7	78.4	79.3	83.4	94.9
.250	74.7	77.6	78.3	77.0	78.6	79.5	81.1	85.8	86.0	98.8
.315	76.3	78.0	79.4	79.4	80.5	81.0	82.6	86.8	92.4	101.3
.400	80.8	81.0	80.1	80.1	80.4	82.4	86.2	89.0	94.8	103.5
.500	83.6	81.9	81.5	82.4	83.5	86.2	89.7	93.6	94.6	106.0
.630	81.5	82.4	83.8	85.7	86.7	89.5	91.9	96.1	100.7	109.5
.800	84.2	86.6	87.5	88.1	89.2	90.8	94.2	99.2	102.0	111.7
1.00	85.8	85.4	87.1	88.4	89.9	92.7	96.7	101.2	104.6	113.7
1.25	85.6	85.9	87.1	89.3	91.3	95.1	98.6	103.4	106.2	115.6
1.60	86.7	87.9	88.1	90.9	93.9	95.4	98.9	103.4	106.1	115.8
2.00	87.4	88.6	89.1	91.3	93.6	96.3	99.4	103.3	105.1	115.7
2.50	88.4	88.7	89.4	91.7	93.9	96.9	99.8	102.8	102.8	115.3
3.15	87.7	88.9	89.7	92.0	94.2	97.2	100.3	101.9	101.5	115.0
4.00	88.6	89.5	90.3	92.8	95.2	98.7	100.7	102.0	101.1	115.5
5.00	88.8	90.4	91.0	93.8	96.0	99.1	100.6	101.0	101.3	115.5
6.30	88.7	90.0	91.1	93.5	95.8	98.9	99.8	100.7	101.2	115.2
8.00	89.4	89.9	91.3	93.8	96.6	99.7	99.8	100.9	101.0	115.5
10.0	89.6	90.4	91.5	94.0	96.7	99.5	99.7	100.7	101.0	115.4
12.5	88.9	90.1	91.4	93.9	96.2	98.2	98.9	100.5	101.7	114.9
16.0	88.7	89.9	91.4	93.9	96.1	97.7	98.1	100.3	102.0	114.7
20.0	87.9	89.3	90.7	93.3	95.4	96.5	96.6	98.3	100.8	113.4
25.0	87.7	89.0	90.3	93.1	95.5	95.9	95.8	97.5	99.6	112.9
31.5	87.1	88.7	90.0	93.2	94.5	95.0	95.0	96.3	97.9	112.0
40.0	87.6	88.8	90.2	92.8	94.1	94.5	94.4	95.4	97.1	111.5
50.0	87.6	88.8	90.4	93.3	93.8	94.4	94.1	94.6	96.2	111.3
63.0	87.9	89.2	90.9	93.2	94.1	94.6	93.8	94.4	95.8	111.3
80.0	89.6	90.3	92.1	94.1	95.1	95.5	94.7	94.9	96.8	112.2
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	101.4	102.4	103.6	106.0	108.0	110.2	111.6	113.9	115.5	OAPWL = 127.7

V_∞ =	31	fps
T_a =	102	°F
RHa =	19	%
P_a =	14.73	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=37 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3388 CONDITION 3388

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	1.31		0.0	1.31	THRUST,IDL	LB*******		11.2	N*******		49.8
TEMP	(R)		0.0	1203.0	(K)	0.0	668.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.065	0.036	KG/M3	1.046	0.571	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS		0.0	1031.0	M/S	0.0	314.2	W (MODEL)	LB/S	0.0	0.4	KG/S	0.0	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	54.9	54.8	0.0	59.1	59.9	0.0	59.6	62.2	63.9	76.5
.125	58.1	60.4	62.9	62.7	62.3	64.2	64.4	66.1	68.4	81.8
.160	59.6	62.6	64.2	64.7	65.1	66.8	66.1	69.2	72.4	84.4
.200	63.8	66.6	66.4	67.2	66.2	69.7	71.3	71.1	73.3	87.0
.250	66.9	68.9	69.8	69.1	70.1	71.0	71.5	76.3	76.1	89.8
.315	68.2	68.9	70.0	70.2	71.6	72.1	74.1	76.5	81.8	91.6
.400	71.2	72.4	71.0	72.0	72.4	74.1	76.6	79.5	85.6	94.4
.500	72.6	72.5	72.8	73.5	74.7	77.2	79.9	82.4	83.3	95.8
.630	72.4	74.1	74.9	76.2	77.3	79.4	80.9	84.5	88.1	98.2
.800	75.1	76.0	76.4	77.5	79.0	80.4	81.9	85.9	87.7	99.2
1.00	76.3	75.3	76.7	77.7	78.7	80.4	82.6	85.7	88.1	99.3
1.25	74.3	75.6	76.3	77.9	79.3	81.4	83.4	86.2	87.4	99.6
1.60	75.2	76.4	76.9	78.7	80.6	81.9	83.5	85.9	86.8	99.8
2.00	76.5	77.0	77.5	79.4	81.3	82.8	84.6	86.6	86.5	100.5
2.50	76.8	77.4	77.9	79.7	81.4	83.3	84.9	87.1	85.6	100.8
3.15	76.7	78.0	78.6	80.4	81.8	83.9	85.7	86.7	85.4	101.0
4.00	77.7	78.4	78.9	81.0	82.9	85.4	86.3	87.1	85.0	101.7
5.00	78.3	79.5	79.9	82.1	83.9	86.2	87.2	87.0	85.4	102.4
6.30	78.2	79.5	80.2	82.2	83.8	85.9	86.6	86.5	86.0	102.2
8.00	78.9	79.1	80.3	82.3	84.3	86.1	85.8	86.5	85.6	102.2
10.0	78.5	79.4	79.9	82.0	83.6	85.0	84.5	84.9	83.7	101.2
12.5	77.5	78.6	79.7	81.7	83.2	84.0	83.0	82.8	81.7	100.1
16.0	77.0	78.3	79.4	81.5	82.8	83.4	82.2	81.7	80.1	99.6
20.0	76.0	77.4	78.4	80.3	81.8	81.9	80.4	79.8	78.3	98.3
25.0	75.5	76.9	78.0	80.0	81.8	81.0	79.5	79.2	76.9	97.8
31.5	74.9	76.6	77.5	79.8	80.6	80.0	78.3	77.6	75.0	96.9
40.0	74.8	76.3	77.4	79.0	79.9	79.2	77.4	76.1	73.8	96.2
50.0	74.4	75.8	77.2	79.3	79.5	78.9	76.8	75.3	72.4	95.9
63.0	74.4	76.2	77.4	79.0	79.6	78.9	76.4	74.9	71.8	95.9
80.0	76.0	76.8	78.5	80.0	80.3	79.5	77.4	75.9	73.2	96.7
100.	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	27.6
OSPL	90.1	91.1	91.9	93.7	95.2	96.5	97.0	98.2	98.5	OAPWL = 113.4

V_∞ =	37	fps
T_a =	73	°F
RH_a =	47	%
P_a =	14.72	psia

DECK LD DATE ENG MOD ENG NO STND Q OBS CORR
H631 315 05/03/76 -00 000000 XARF 0 3310 3310

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.6	74.8	78.3	80.2	79.1	77.5	78.3	82.8	86.3
125	73.6	76.2	79.0	78.6	78.7	79.1	80.0	82.7	87.0
160	73.1	76.8	78.4	80.0	80.7	80.2	79.7	84.8	90.1
200	76.8	79.4	79.8	82.8	82.1	82.6	85.2	85.7	89.2
250	79.5	82.7	83.9	83.9	85.7	86.5	85.5	91.4	92.8
315	83.4	85.9	86.5	86.7	87.6	86.9	87.9	91.9	99.3
400	86.6	86.3	86.1	86.5	86.7	87.5	90.8	94.0	100.6
500	85.9	85.1	86.2	86.2	89.2	91.7	94.4	98.7	100.9
630	86.8	86.7	88.5	89.9	91.7	93.2	95.2	100.1	105.5
800	88.1	89.0	90.1	92.8	94.8	94.4	97.0	102.7	106.3
1000	89.0	89.2	90.9	92.4	94.4	95.3	98.2	103.2	107.0
1250	88.6	90.9	92.3	93.6	94.9	96.5	99.5	104.4	106.6
1600	89.6	90.6	91.9	93.0	95.5	97.2	100.3	104.4	105.8
2000	90.5	91.8	92.6	94.2	96.7	98.3	101.7	105.1	105.1
2500	91.4	92.0	92.7	94.9	97.2	98.6	102.4	105.1	104.1
3150	91.7	93.1	93.6	96.0	98.1	99.9	103.6	105.2	104.2
4000	92.7	93.4	94.3	96.3	99.1	101.1	104.4	105.8	103.9
5000	93.9	94.9	95.4	97.6	99.9	102.1	105.4	106.1	104.3
6300	94.0	95.0	96.3	98.0	100.5	102.7	105.5	106.0	104.9
8000	96.3	95.8	96.9	98.6	101.4	103.4	105.5	106.7	105.6
10000	98.1	97.7	98.0	99.1	101.7	103.4	105.2	107.1	106.0
12500	104.8	102.0	100.1	100.8	102.3	103.7	105.0	106.3	105.7
16000	110.1	107.6	103.5	101.6	102.9	104.1	104.9	105.8	105.6
20000	110.2	109.6	106.8	103.3	103.1	103.6	104.1	104.8	104.8
25000	108.6	109.5	108.4	106.8	105.6	104.3	103.6	105.0	104.4
31500	107.7	107.6	108.0	107.9	107.8	105.5	103.9	104.1	103.8
40000	107.7	107.5	106.7	107.3	108.8	107.0	104.1	103.6	103.1
50000	107.0	107.0	106.8	107.0	108.2	107.7	104.6	103.4	102.2
63000	106.3	106.9	106.9	106.8	107.2	107.5	104.3	103.4	101.9
80000	105.9	106.1	106.3	106.6	106.9	106.3	104.1	102.7	101.3
TSPL	117.7	117.3	116.4	116.1	116.9	116.8	117.0	118.4	118.5
SSPL	117.7	117.3	116.4	116.1	116.9	116.8	117.0	118.3	118.4

V_∞ =	100	fps
T_a =	56	°F
RH_a =	22	%
P_a =	14.63	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/03/76 -00 000000 XARF 0 3310 3310

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	118.1	117.5	116.4	116.0	116.6	116.3	116.3	117.5	117.8
SSPL	116.1	117.5	116.4	115.9	116.5	116.3	116.3	117.5	117.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	118.3	117.6	116.4	115.8	116.3	115.9	115.8	117.0	117.1
SSPL	116.3	117.6	116.4	115.8	116.3	115.9	115.8	117.0	117.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3310 3 1C

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	76.3	75.2	78.4	79.9	78.5	76.6	76.8	80.3	83.7
125	74.3	76.6	79.1	78.3	78.1	78.2	78.7	80.5	83.9
160	73.8	77.2	78.5	79.8	80.1	79.3	78.3	82.0	86.7
200	77.4	79.8	79.9	82.6	81.5	81.7	83.8	84.0	86.2
250	80.1	83.1	83.9	83.7	85.2	85.6	84.1	88.8	91.4
315	84.1	86.3	86.5	86.4	87.0	86.0	86.4	89.2	94.8
400	87.5	86.6	86.1	86.2	86.1	86.5	89.2	91.5	96.4
500	86.6	85.4	86.2	86.0	88.7	90.7	92.8	96.4	98.9
630	87.5	89.1	88.6	89.7	91.2	92.2	93.6	97.4	102.1
800	88.8	89.4	90.2	92.6	94.2	93.5	95.3	100.0	103.8
1000	89.7	89.6	91.0	92.2	93.9	94.3	96.5	100.6	104.3
1250	89.3	91.3	92.4	93.4	94.4	95.5	97.9	102.0	104.7
1600	90.5	91.0	92.0	92.8	95.0	96.2	98.7	102.2	104.2
2000	91.2	92.2	92.7	94.1	96.2	97.3	100.1	103.2	104.1
2500	92.1	92.4	92.8	94.8	96.7	97.6	100.8	103.4	103.5
3150	92.3	93.4	93.6	95.8	97.5	98.8	102.0	103.7	103.4
4000	93.3	93.7	94.4	96.1	98.6	100.1	102.9	104.4	103.5
5000	94.5	95.3	95.5	97.4	99.4	101.1	103.9	104.8	103.8
6300	94.7	95.4	96.4	97.8	100.0	101.7	104.1	104.7	104.1
8000	97.0	96.2	97.0	98.5	100.9	102.5	104.1	105.3	104.9
10000	98.8	98.0	98.0	98.9	101.2	102.4	103.8	105.5	105.3
12500	105.4	102.2	100.0	100.5	101.7	102.7	103.6	104.7	104.7
16000	110.8	107.8	103.4	101.3	102.4	103.2	103.6	104.3	104.4
20000	110.8	109.8	106.6	102.9	102.5	102.7	102.8	103.3	103.5
25000	109.2	109.8	108.3	106.4	104.9	103.4	102.4	103.4	103.4
31500	108.3	107.9	108.0	107.6	107.1	104.7	102.8	102.7	102.5
40000	108.4	107.8	106.7	107.1	108.2	106.2	103.2	102.4	101.9
50000	107.7	107.3	106.8	106.8	107.6	106.9	103.8	102.4	101.2
63000	106.9	107.2	106.9	106.5	106.6	106.6	103.4	102.3	101.1
80000	106.6	106.4	106.3	106.3	106.3	105.5	103.2	101.7	100.4
TSPL	118.3	117.6	116.3	115.8	116.3	115.9	115.7	116.8	117.2
SSPL	118.3	117.6	116.3	115.8	116.3	115.9	115.7	116.7	117.1

V_∞ = 100 fps
T_a = 56 °F
RH_a = 22 %
P_a = 14.63 psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/03/76 SCALE RATIO 0.0/1 RUN NUMBER 3310 CONDITION 3310

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.52	3.21		1.52	3.21	THRUST,IDL	LB		27.2	80.8	N	121.1	359.6
TEMP	(R)		698.3	722.0	(K)	387.9	401.1	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.064	0.077	KG/M3	1.032	1.227	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		974.1	1568.0	M/S	296.9	477.9	W (MODEL)	LB/S		0.9	1.7	KG/S	0.4	0.8

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.3	75.2	78.4	79.9	78.5	76.6	76.8	80.3	83.7	96.8
.125	74.3	76.6	79.1	78.3	78.1	78.2	78.7	80.5	83.9	97.0
.160	73.8	77.2	78.5	79.8	80.1	79.3	78.3	82.0	86.7	98.2
.200	77.4	79.8	79.9	82.6	81.5	81.7	83.8	84.0	86.2	100.4
.250	80.1	83.1	83.9	83.7	85.2	85.6	84.1	88.8	91.4	103.7
.315	84.1	86.3	86.5	86.4	87.0	86.0	86.4	89.2	94.8	105.8
.400	87.5	86.6	86.1	86.2	86.1	86.5	89.2	91.5	96.4	106.9
.500	86.6	85.4	86.2	86.0	88.7	90.7	92.8	96.4	98.9	109.6
.630	87.5	89.1	88.6	89.7	91.2	92.2	93.6	97.4	102.1	111.7
.800	88.8	89.4	90.2	92.6	94.2	93.5	95.3	100.0	103.8	113.7
1.00	89.7	89.6	91.0	92.2	93.9	94.3	96.5	100.6	104.3	114.2
1.25	89.3	91.3	92.4	93.4	94.4	95.5	97.9	102.0	104.7	115.2
1.60	90.5	91.0	92.0	92.8	95.0	96.2	98.7	102.2	104.2	115.4
2.00	91.2	92.2	92.7	94.1	96.2	97.3	100.1	103.2	104.1	116.3
2.50	92.1	92.4	92.8	94.8	96.7	97.6	100.8	103.4	103.5	116.5
3.15	92.3	93.4	93.6	95.8	97.5	98.8	102.0	103.7	103.4	117.2
4.00	93.3	93.7	94.4	96.1	98.6	100.1	102.9	104.4	103.5	118.0
5.00	94.5	95.3	95.5	97.4	99.4	101.1	103.9	104.8	103.8	118.8
6.30	94.7	95.4	96.4	97.8	100.0	101.7	104.1	104.7	104.1	119.1
8.00	97.0	96.2	97.0	98.5	100.9	102.5	104.1	105.3	104.9	119.7
10.0	96.8	98.0	98.0	98.9	101.2	102.4	103.8	105.5	105.3	120.0
12.5	105.4	102.2	100.0	100.5	101.7	102.7	103.6	104.7	104.7	121.0
16.0	110.8	107.8	103.4	101.3	102.4	103.2	103.6	104.3	104.4	123.5
20.0	110.6	109.8	106.6	102.9	102.5	102.7	102.8	103.3	103.5	124.4
25.0	109.2	109.8	108.3	106.4	104.9	103.4	102.4	103.4	103.4	125.0
31.5	108.3	107.9	108.0	107.6	107.1	104.7	102.8	102.7	102.5	124.9
40.0	108.4	107.8	106.7	107.1	108.2	106.2	103.2	102.4	101.9	124.9
50.0	107.7	107.3	106.8	106.8	107.6	106.9	103.8	102.4	101.2	124.7
63.0	106.9	107.2	106.9	106.5	106.6	106.6	103.4	102.3	101.1	124.4
80.0	106.6	106.4	106.3	106.3	106.3	105.5	103.2	101.7	100.4	123.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	118.3	117.6	116.3	115.8	116.3	115.9	115.7	116.8	117.2	OAPWL = 134.9

V_∞ =	100	fps
T_a =	56	°F
RH_a =	22	%
P_a =	14.63	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3311 3311

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.8	69.4	79.6	81.5	80.2	81.6	82.2	86.7	80.1
125	65.6	73.9	80.0	80.3	80.0	81.2	82.0	69.0	84.6
160	72.7	71.1	76.2	78.1	79.3	81.0	80.2	77.5	87.6
200	70.7	74.2	77.4	81.0	79.7	81.8	83.5	79.5	86.2
250	76.9	80.7	81.6	82.2	84.0	84.9	83.5	88.7	90.3
315	81.2	83.8	84.2	83.9	85.1	84.8	85.1	89.9	97.2
400	83.0	82.9	82.5	83.7	84.5	85.4	88.6	91.3	98.7
500	81.7	81.3	82.9	83.8	86.6	88.8	91.2	96.5	99.1
630	84.2	85.4	86.2	87.4	89.4	90.8	93.1	97.6	102.6
800	85.0	85.4	87.2	89.6	91.7	91.9	95.1	100.0	104.1
1000	86.7	87.0	88.6	89.9	92.3	93.3	95.7	101.2	104.5
1250	86.3	88.3	89.7	90.9	92.6	93.9	97.5	102.2	104.3
1600	87.7	88.3	89.5	90.8	93.1	95.0	98.4	102.9	104.2
2000	88.2	89.5	90.4	92.3	94.7	96.3	100.1	103.9	103.7
2500	89.1	90.0	90.7	92.7	95.1	96.9	100.9	104.1	102.8
3150	89.4	90.8	91.7	93.8	96.1	98.3	102.3	104.4	102.8
4000	90.6	91.4	92.2	94.3	97.4	99.5	103.1	104.9	102.5
5000	91.7	92.9	93.3	95.7	98.3	100.7	104.2	105.2	102.8
6300	92.6	93.1	94.1	96.3	98.9	101.2	104.3	105.1	103.1
8000	94.8	94.3	95.3	97.1	99.9	102.1	104.2	105.8	103.3
10000	97.4	97.1	97.1	98.1	100.3	102.1	104.1	105.9	103.7
12500	105.1	102.1	99.6	100.2	101.4	102.5	104.1	105.3	103.5
16000	110.2	107.6	103.3	101.0	101.7	102.7	103.7	104.6	102.8
20000	110.0	109.4	106.4	103.1	102.2	102.4	103.0	103.6	101.5
25000	108.3	109.0	107.9	106.4	105.0	103.4	102.8	103.7	101.3
31500	107.4	107.1	107.2	107.3	107.6	105.3	103.6	103.1	100.8
40000	107.5	107.1	106.1	106.9	108.5	107.2	104.1	102.9	100.5
50000	106.4	106.4	106.2	106.5	107.9	107.9	105.0	103.0	99.9
63000	105.8	106.4	106.4	106.3	107.1	107.4	104.8	103.0	99.8
80000	105.4	105.5	105.8	106.1	106.7	106.2	104.2	102.4	99.3
TSPL	117.4	116.9	115.7	115.5	116.3	116.2	116.2	117.2	116.4
SSPL	117.4	116.8	115.7	115.5	116.3	116.2	116.2	117.2	116.2

V_∞ =	198	fps
T_a =	50	°F
RH_a =	26	%
P_a =	14.38	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/03/76		-00 000000	XARF	0	3311	3311

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	118.3	117.4	115.9	115.3	115.7	115.2	114.9	115.8	115.7
SSPL	118.3	117.4	115.9	115.3	115.7	115.2	114.9	115.7	115.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	118.7	117.6	115.8	114.9	115.1	114.4	113.8	114.7	114.2
SSPL	118.7	117.6	115.8	114.9	115.1	114.4	113.8	114.7	114.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3311 3211

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	74.1	70.5	80.4	80.9	79.0	79.7	79.6	83.0	82.5
125	67.0	75.3	80.5	79.6	78.8	79.4	80.6	70.4	70.2
160	74.0	71.9	76.7	77.7	78.2	79.2	78.3	75.1	78.0
200	72.0	75.2	77.9	80.5	78.5	79.8	81.3	78.1	78.7
250	78.2	81.6	81.7	81.7	82.8	83.1	81.2	83.8	87.2
315	82.5	84.6	84.2	83.3	83.9	83.0	82.4	84.7	90.2
400	84.3	83.5	82.5	83.2	83.4	83.5	85.6	87.2	91.4
500	83.0	82.0	83.1	83.4	85.5	86.8	88.1	91.6	95.3
630	85.5	86.2	86.3	86.9	88.3	88.9	90.1	92.9	97.1
800	86.3	86.2	87.5	89.2	90.6	90.0	91.9	95.2	99.3
1000	88.1	87.7	88.2	89.5	91.2	91.4	92.6	96.2	100.3
1250	87.6	89.1	89.9	90.4	91.5	92.0	94.3	97.7	100.9
1600	89.0	89.0	89.7	90.4	92.0	93.0	95.3	98.6	101.3
2000	89.5	90.3	90.6	91.9	93.6	94.4	96.9	100.1	101.8
2500	90.4	90.8	90.9	92.3	94.0	94.9	97.8	100.6	101.6
3150	90.8	91.6	91.9	93.4	95.0	96.2	99.2	101.3	101.6
4000	91.9	92.1	92.4	93.9	96.3	97.5	100.1	102.0	101.8
5000	93.0	93.6	93.5	95.3	97.2	98.7	101.3	102.7	102.0
6300	93.9	93.6	94.3	95.9	97.8	99.2	101.5	102.6	102.1
8000	96.2	95.0	95.5	96.8	98.8	100.2	101.5	103.0	102.7
10000	98.7	97.7	97.2	97.6	99.2	100.2	101.4	102.9	102.9
12500	106.4	102.4	99.4	99.6	100.2	100.6	101.5	102.5	102.3
16000	111.5	107.9	102.8	100.3	100.5	100.9	101.2	101.9	101.6
20000	111.3	109.8	105.9	102.3	101.0	100.6	100.6	101.0	100.5
25000	109.6	109.6	107.7	105.6	103.7	101.7	100.6	101.0	100.5
31500	108.7	107.7	107.2	106.7	106.3	103.7	101.7	100.9	99.8
40000	108.8	107.7	106.1	106.4	107.3	105.7	102.6	101.0	99.6
50000	107.7	107.0	106.2	106.0	106.7	106.3	103.5	101.5	99.4
63000	107.1	107.0	106.3	105.7	105.9	105.7	103.2	101.3	99.3
80000	106.7	106.2	105.8	105.5	105.5	104.5	102.5	100.8	98.8
TSPL	118.7	117.4	115.6	114.9	115.1	114.5	113.8	114.4	114.5
SSPL	118.7	117.4	115.6	114.9	115.1	114.4	113.8	114.4	114.5

V_∞ =	198	fps
T_a =	50	°F
RH_a =	26	%
P_a =	14.38	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3311 CONDITION 3311

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.20		1.52	3.20	THRUST,IDL	LB	27.3	70.5	N	121.2	313.5
TEMP	(R)	698.0	720.7	(K)	387.8	400.4	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.077	KG/M3	1.032	1.228	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	975.2	1565.0	M/S	297.2	477.0	W (MODEL)	LB/S	0.9	1.4	KG/S	0.4	0.7

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.1	70.5	80.4	80.9	79.0	79.7	79.6	83.0	82.5	98.1
.125	67.0	75.3	80.5	79.6	78.8	79.4	80.6	70.4	70.2	96.7
.160	74.0	71.9	76.7	77.7	78.2	79.2	78.3	75.1	78.0	95.4
.200	72.0	75.2	77.9	80.5	78.5	79.8	81.3	78.1	78.7	97.1
.250	78.2	81.6	81.7	81.7	82.8	83.1	81.2	83.8	87.2	100.8
.315	82.5	84.6	84.2	83.3	83.9	83.0	82.4	84.7	90.2	102.6
.400	84.3	83.5	82.5	83.2	83.4	83.5	85.6	87.2	91.4	103.2
.500	83.0	82.0	83.1	83.4	85.5	86.8	88.1	91.6	95.3	105.6
.630	85.5	86.2	86.3	86.9	88.3	88.9	90.1	92.9	97.1	107.8
.800	86.3	86.2	87.5	89.2	90.6	90.0	91.9	95.2	99.3	109.7
1.00	88.1	87.7	88.2	89.5	91.2	91.4	92.6	96.2	100.3	110.6
1.25	87.6	89.1	89.9	90.4	91.5	92.0	94.3	97.7	100.9	111.6
1.60	89.0	89.0	89.7	90.4	92.0	93.0	95.3	98.6	101.3	112.3
2.00	89.5	90.3	90.6	91.9	93.6	94.4	96.9	100.1	101.8	113.5
2.50	90.4	90.8	90.9	92.3	94.0	94.9	97.8	100.6	101.6	114.0
3.15	90.8	91.6	91.9	93.4	95.0	96.2	99.2	101.3	101.6	114.8
4.00	91.9	92.1	92.4	93.9	96.3	97.5	100.1	102.0	101.8	115.6
5.00	93.0	93.6	93.5	95.3	97.2	98.7	101.3	102.7	102.0	116.6
6.30	93.9	93.8	94.3	95.9	97.8	99.2	101.5	102.6	102.1	116.9
8.00	96.2	95.0	95.5	96.8	98.8	100.2	101.5	103.0	102.7	117.5
10.0	98.7	97.7	97.2	97.6	99.2	100.2	101.4	102.9	102.9	118.1
12.5	106.4	102.4	99.4	99.6	100.2	100.6	101.5	102.5	102.3	120.0
16.0	111.5	107.9	102.8	100.3	100.5	100.9	101.2	101.9	101.6	123.0
20.0	111.3	109.8	105.9	102.3	101.0	100.6	100.6	101.0	100.5	124.0
25.0	109.6	109.6	107.7	105.6	103.7	101.7	100.6	101.0	100.5	124.4
31.5	108.7	107.7	107.2	106.7	106.3	103.7	101.7	100.9	99.8	124.3
40.0	108.8	107.7	106.1	106.4	107.3	105.7	102.6	101.0	99.6	124.4
50.0	107.7	107.0	106.2	106.0	106.7	106.3	103.5	101.5	99.4	124.2
63.0	107.1	107.0	106.3	105.7	105.9	105.7	103.2	101.3	99.3	123.9
80.0	106.7	106.2	105.8	105.5	105.5	104.5	102.5	100.8	98.8	123.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	118.7	117.4	115.6	114.9	115.1	114.5	113.8	114.4	114.5	OAPHL = 133.9

V_{∞} =	198	fps
T_a =	50	°F
RH_a =	26	%
P_a =	14.38	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS C	RR
W631	315	05/03/76		-00 000000	XARF 0	3313 3	13

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	70.2	69.1	73.1	75.1	74.6	73.5	74.1	77.9	81.7
125	69.5	72.4	75.5	75.0	75.3	75.9	76.7	79.0	83.5
160	70.3	73.8	75.7	77.2	77.4	76.6	76.8	81.8	86.7
200	73.5	76.4	77.0	79.6	78.8	79.1	81.5	82.4	86.1
250	75.9	79.6	80.7	80.6	82.3	83.3	82.3	88.1	89.1
315	80.4	82.8	83.8	83.4	83.8	83.1	84.1	88.5	95.7
400	83.3	83.0	82.8	83.2	83.2	83.4	87.6	90.6	97.0
500	82.5	82.0	83.4	83.2	85.5	88.0	91.3	94.7	97.1
630	82.6	84.7	85.1	86.4	88.3	89.7	91.5	96.3	101.7
800	84.6	85.4	86.8	89.4	90.8	90.7	93.2	98.8	102.2
1000	86.3	85.8	87.7	88.6	90.5	91.9	94.4	99.2	103.5
1250	86.3	87.7	89.0	90.4	91.7	93.2	96.0	100.4	103.2
1600	86.3	87.4	89.0	90.2	92.3	93.9	96.4	100.5	103.0
2000	87.4	89.3	89.8	91.0	93.4	94.8	97.6	101.5	102.5
2500	88.5	89.0	89.7	91.7	93.9	95.1	98.2	101.7	101.6
3150	88.5	89.8	90.6	92.9	95.0	96.2	99.2	101.6	101.0
4000	89.2	90.1	91.1	93.1	95.3	97.0	99.7	101.9	100.3
5000	90.2	91.3	91.8	93.9	96.1	98.1	100.6	101.7	100.1
6300	90.2	91.2	92.5	94.3	96.3	98.3	100.7	101.3	100.0
8000	91.4	91.6	92.7	94.5	97.0	98.9	100.7	101.5	99.6
10000	91.6	92.3	92.6	94.5	97.2	98.7	100.4	101.5	99.0
12500	91.9	92.1	93.0	95.0	97.3	98.9	100.2	100.8	99.2
16000	93.9	93.3	93.5	95.3	97.6	99.3	100.0	100.3	99.2
20000	97.1	95.3	94.3	95.0	97.4	98.6	99.2	99.2	98.3
25000	102.1	99.6	96.3	95.9	97.9	98.7	98.6	99.0	97.8
31500	104.7	103.1	99.8	97.4	98.0	98.2	98.2	97.9	96.7
40000	104.7	104.1	102.5	100.1	98.8	98.2	97.6	97.0	95.8
50000	103.0	103.2	103.0	102.5	100.7	98.7	97.4	96.3	94.6
63000	102.0	102.1	102.4	102.4	102.3	100.2	97.4	96.0	94.1
80000	101.8	101.6	101.4	101.6	102.2	101.4	98.2	96.0	93.8
TSPL	111.6	111.0	110.2	110.1	110.8	111.1	112.0	113.5	114.0
SSPL	111.6	111.0	110.2	110.0	110.7	111.1	112.0	113.5	113.8

V_∞ =	100	fps
T_a =	61	°F
RH_a =	23	%
P_a =	14.72	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	112.0	111.3	110.3	109.9	110.4	110.6	111.3	112.7	113.2
SSPL	112.0	111.2	110.2	109.9	110.4	110.6	111.3	112.6	113.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	112.3	111.4	110.2	109.8	110.2	110.2	110.8	112.2	112.6
SSPL	112.3	111.3	110.2	109.8	110.1	110.2	110.8	112.1	112.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS C
W631 315 05/03/76 -00 000000 XARF 0 3313

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	70.9	69.5	73.3	74.9	74.0	72.6	72.7	75.5	78.9
125	70.1	72.9	75.6	74.7	74.7	75.0	75.3	76.8	80.2
160	70.9	74.3	75.8	76.9	76.8	75.7	75.3	79.0	83.5
200	74.2	76.8	77.1	79.3	78.2	78.2	80.1	80.6	83.0
250	76.5	80.0	80.7	80.3	81.8	82.4	80.9	85.5	87.8
315	81.1	83.2	83.8	83.1	83.2	82.2	82.6	85.7	91.3
400	84.0	83.3	82.8	82.9	82.6	82.4	85.9	88.2	92.9
500	83.2	82.4	83.4	83.0	85.0	87.0	89.7	92.6	94.9
630	83.3	85.1	85.2	86.2	87.8	88.7	89.9	93.6	98.2
800	85.3	85.8	86.9	89.2	90.2	89.8	91.5	96.1	99.8
1000	87.0	86.2	87.8	88.4	90.0	90.9	92.8	96.6	100.6
1250	87.0	88.1	89.1	90.2	91.2	92.2	94.4	98.0	100.9
1600	87.0	87.8	89.1	90.0	91.8	92.9	94.8	98.2	100.9
2000	88.1	89.7	89.9	90.8	92.9	93.8	96.0	99.4	101.1
2500	89.2	89.4	89.8	91.6	93.4	94.2	96.6	99.8	100.7
3150	89.1	90.1	90.6	92.7	94.4	95.2	97.6	99.8	100.1
4000	89.8	90.5	91.2	92.9	94.8	96.0	98.2	100.3	99.9
5000	90.8	91.7	91.9	93.7	95.6	97.1	99.2	100.3	99.6
6300	90.9	91.6	92.6	94.1	95.8	97.3	99.3	100.0	99.3
8000	92.1	92.0	92.8	94.4	96.5	98.0	99.4	100.2	99.2
10000	92.3	92.7	92.7	94.3	96.7	97.7	99.0	100.2	98.9
12500	92.5	92.4	93.1	94.8	96.8	97.9	98.9	99.5	98.6
16000	94.6	93.6	93.6	95.1	97.1	98.4	98.8	99.0	98.3
20000	97.7	95.5	94.3	94.8	96.9	97.7	98.0	97.9	97.3
25000	102.7	99.7	96.2	95.6	97.3	97.8	97.4	97.6	97.0
31500	105.3	103.3	99.7	97.1	97.4	97.3	97.0	96.7	95.8
40000	105.4	104.4	102.4	99.8	98.2	97.4	96.5	95.9	94.9
50000	103.7	103.5	103.0	102.2	100.0	97.9	96.4	95.3	93.9
63000	102.6	102.4	102.4	102.1	101.6	99.4	96.5	95.0	93.4
80000	102.5	101.9	101.4	101.3	101.6	100.6	97.4	95.2	93.2
TSPL	112.3	111.3	110.2	109.8	110.2	110.2	110.7	111.9	112.5
SSPL	112.3	111.3	110.2	109.8	110.1	110.2	110.7	111.8	112.3

V_∞ =	100	fps
T_a =	61	°F
RH_a =	23	%
P_a =	14.72	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3313 CONDITION 3313

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.50		1.53	2.50	THRUST,IDL	LB	28.3	50.8	N	126.0	225.9
TEMP	(R)	700.2	718.7	(K)	389.0	399.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.072	KG/M3	1.030	1.150	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	980.5	1410.0	M/S	298.9	429.8	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	70.9	69.5	73.3	74.9	74.0	72.6	72.7	75.5	78.9	92.0
.125	70.1	72.9	75.6	74.7	74.7	75.0	75.3	76.8	80.2	93.5
.160	70.9	74.3	75.8	76.9	76.8	75.7	75.3	79.0	83.5	95.1
.200	74.2	76.8	77.1	79.3	78.2	78.2	80.1	80.6	83.0	97.1
.250	76.5	80.0	80.7	80.3	81.8	82.4	80.9	85.5	87.8	100.4
.315	81.1	83.2	83.8	83.1	83.2	82.2	82.6	85.7	91.3	102.4
.400	84.0	83.3	82.8	82.9	82.6	82.4	85.9	88.2	92.9	103.5
.500	83.2	82.4	83.4	83.0	85.0	87.0	89.7	92.6	94.9	106.1
.630	83.3	85.1	85.2	86.2	87.8	88.7	89.9	93.6	98.2	107.9
.800	85.3	85.8	86.9	89.2	90.2	89.8	91.5	96.1	99.8	109.9
1.00	87.0	86.2	87.8	88.4	90.0	90.9	92.8	96.6	100.6	110.5
1.25	87.0	88.1	89.1	90.2	91.7	92.2	94.4	98.0	100.9	111.6
1.60	87.0	87.8	89.1	90.0	91.8	92.9	94.8	98.2	100.9	111.8
2.00	88.1	89.7	89.9	90.8	92.9	93.8	96.0	99.4	101.1	112.8
2.50	89.2	89.4	89.8	91.6	93.4	94.2	96.6	99.8	100.7	113.1
3.15	89.1	90.1	90.6	92.7	94.4	95.2	97.6	99.8	100.1	113.5
4.00	89.8	90.5	91.2	92.9	94.8	96.0	98.2	100.3	99.9	114.0
5.00	90.8	91.7	91.9	93.7	95.6	97.1	99.2	100.3	99.6	114.6
6.30	90.9	91.6	92.6	94.1	95.8	97.3	99.3	100.0	99.3	114.6
8.00	92.1	92.0	92.8	94.4	96.5	98.0	99.4	100.2	99.2	115.0
10.0	92.3	92.7	92.7	94.3	96.7	97.7	99.0	100.2	98.9	114.9
12.5	92.5	92.4	93.1	94.8	96.8	97.9	98.9	99.5	98.6	114.8
16.0	94.6	93.6	93.6	95.1	97.1	98.4	98.8	99.0	98.3	115.0
20.0	97.7	95.5	94.3	94.8	96.9	97.7	98.0	97.9	97.3	114.9
25.0	102.7	99.7	96.2	95.6	97.3	97.8	97.4	97.6	97.0	116.5
31.5	105.3	103.3	99.7	97.1	97.4	97.3	97.0	96.7	95.8	118.3
40.0	105.4	104.4	102.4	99.8	98.2	97.4	96.5	95.9	94.9	119.3
50.0	103.7	103.5	103.0	102.2	100.0	97.9	96.4	95.3	93.9	119.5
63.0	102.6	102.4	102.4	102.1	101.6	99.4	96.5	95.0	93.4	119.3
80.0	102.5	101.9	101.4	101.3	101.6	100.6	97.4	95.2	93.2	119.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	112.3	111.3	110.2	109.8	110.2	110.2	110.7	111.9	112.5	OAPWL = 129.1

V_∞ =	100	fps
T_a =	61	°F
RH_a =	23	%
P_a =	14.72	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CONR
W631 315 05/03/76 -00 000000 XARF 0 3315 2015

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.7	75.5	67.5	75.9	76.1	78.1	78.9	82.8	87.0
125	73.9	75.0	74.3	74.9	75.4	66.7	62.9	81.9	86.1
160	71.2	73.9	72.1	74.6	75.6	70.1	77.3	81.9	80.5
200	73.7	59.5	72.5	77.7	76.4	76.0	78.6	82.0	81.8
250	72.1	76.8	78.2	78.3	80.5	80.9	79.5	84.4	86.9
315	77.9	80.3	81.4	80.6	80.9	80.5	81.1	85.9	94.1
400	79.8	79.6	79.1	80.0	80.9	81.2	85.6	87.8	97.3
500	78.6	77.7	80.1	80.5	82.9	85.4	88.3	92.5	95.7
630	79.4	81.1	82.3	83.9	85.6	87.1	89.4	93.8	98.9
800	82.2	82.0	83.6	86.0	88.2	88.6	91.5	96.5	100.6
1000	84.2	83.7	84.5	86.5	89.0	89.9	92.0	97.4	101.0
1250	83.7	85.4	86.7	88.2	89.5	90.7	94.0	98.4	101.2
1600	84.4	85.2	86.6	88.2	90.1	91.6	94.4	98.8	101.1
2000	85.3	86.8	87.7	89.1	91.2	93.0	96.1	100.1	100.9
2500	86.1	86.9	87.3	89.6	91.7	93.3	96.5	100.2	99.8
3150	86.3	87.5	88.5	90.9	92.8	94.4	97.6	100.1	99.2
4000	87.2	88.2	88.9	91.2	93.4	95.6	98.4	100.4	98.3
5000	88.3	89.4	90.0	92.2	94.4	96.4	99.3	100.1	97.9
6300	88.6	89.5	90.7	92.7	94.9	96.9	99.3	99.7	97.5
8000	89.6	89.9	91.3	92.9	95.6	97.3	99.4	99.9	96.9
10000	90.0	90.8	91.3	93.1	95.7	97.4	99.0	99.9	96.6
12500	90.9	91.0	91.9	93.8	96.1	97.7	99.0	99.5	96.9
16000	93.8	93.1	92.7	94.4	96.6	98.0	98.9	99.2	97.0
20000	98.1	95.8	93.9	94.4	96.5	97.8	98.2	98.3	96.1
25000	102.8	100.4	96.5	95.7	97.2	97.8	97.8	98.4	95.6
31500	104.6	103.3	100.3	97.6	97.6	97.5	97.6	97.3	94.6
40000	104.1	103.6	102.3	100.4	98.7	97.9	97.0	96.2	93.7
50000	102.5	102.5	102.4	102.3	100.8	98.8	97.3	95.7	92.8
63000	101.5	101.6	101.8	102.0	102.2	100.5	97.4	95.7	92.3
80000	101.1	100.9	100.8	101.2	102.0	101.2	98.3	95.6	92.2
TSPL	111.3	110.6	109.6	109.5	110.0	110.2	110.9	112.1	112.0
SSPL	111.3	110.6	109.6	109.5	110.0	110.2	110.8	112.1	111.7

V_∞ =	198	fps
T_a =	53	°F
RH_a =	24	%
P_a =	14.47	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	112.2	111.1	109.8	109.3	109.4	109.2	109.6	110.6	111.3
SSPL	112.2	111.1	109.8	109.3	109.4	109.2	109.5	110.6	111.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	112.6	111.3	109.7	108.9	108.8	108.4	108.5	109.6	109.8
SSPL	112.6	111.3	109.7	108.9	108.8	108.3	108.5	109.5	109.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3315 . 15

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.0	75.6	67.7	75.6	75.0	76.2	76.3	78.3	82.0
125	75.2	75.7	74.3	74.3	74.0	65.6	59.8	70.9	82.5
160	72.5	74.6	72.2	74.1	74.3	68.4	73.3	78.0	79.4
200	75.0	60.2	73.8	77.2	75.1	74.2	75.7	78.2	79.8
250	73.4	77.7	78.3	77.8	79.4	79.2	77.2	79.5	83.2
315	79.2	81.2	81.4	80.0	79.7	78.8	78.4	80.6	86.5
400	81.1	80.2	79.2	79.5	79.7	79.3	82.4	83.7	88.6
500	79.9	78.4	80.3	80.0	81.8	83.4	85.2	88.1	91.4
630	80.8	81.9	82.5	83.4	84.4	85.2	86.4	89.1	93.3
800	83.5	82.8	83.9	85.6	87.0	86.7	88.4	91.7	95.8
1000	85.5	84.4	84.8	86.1	87.9	88.0	89.0	92.4	96.6
1250	85.0	86.2	86.9	87.7	88.4	88.8	90.9	94.0	97.2
1600	85.8	85.9	86.8	87.8	89.0	89.7	91.4	94.4	97.5
2000	86.6	87.5	87.9	88.7	90.1	91.1	93.1	96.0	98.3
2500	87.4	87.6	87.5	89.2	90.6	91.4	93.5	96.4	98.0
3150	87.6	88.3	88.8	90.4	91.6	92.4	94.6	96.8	97.5
4000	88.5	88.9	89.1	90.8	92.3	93.6	95.5	97.4	97.4
5000	89.6	90.1	90.2	91.8	93.3	94.4	96.5	97.6	97.0
6300	89.9	90.3	90.9	92.3	93.8	95.0	96.6	97.4	96.6
8000	90.9	90.7	91.6	92.5	94.5	95.4	96.8	97.6	96.6
10000	91.3	91.5	91.5	92.7	94.6	95.5	96.4	97.4	96.5
12500	92.2	91.7	92.1	93.4	94.9	95.8	96.5	97.0	96.2
16000	95.1	93.7	92.8	94.0	95.5	96.1	96.5	96.8	96.1
20000	99.4	96.2	93.8	93.9	95.4	96.0	95.9	95.9	95.1
25000	104.1	100.7	96.1	95.1	96.0	96.0	95.5	95.9	95.1
31500	105.9	103.7	99.8	96.9	96.4	95.7	95.4	95.1	93.9
40000	105.4	104.2	102.1	99.6	97.5	96.2	95.0	94.2	92.9
50000	103.6	103.2	102.4	101.6	99.5	97.2	95.5	94.0	92.2
63000	102.8	102.2	101.8	101.4	100.9	98.9	95.8	94.0	92.0
80000	102.4	101.5	100.8	100.7	100.8	99.6	96.8	94.3	91.8
TSPL	112.6	111.1	109.6	108.9	108.8	108.4	108.4	109.2	109.6
SSPL	112.6	111.1	109.5	108.9	108.8	108.4	108.4	109.2	109.5

V_∞ =	198	fps
T_a =	53	°F
RH_a =	24	%
P_a =	1447	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3315 CONDITION 3315

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.51		1.53	2.51	THRUST,IDL	LB	27.7	50.3	N	123.3	223.9
TEMP	(R)	713.7	727.7	(K)	396.5	404.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.071	KG/M3	1.011	1.137	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	991.4	1422.0	M/S	302.2	433.4	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.0	75.6	67.7	75.6	75.0	76.2	76.3	78.3	82.0	94.7
.125	75.2	75.7	74.3	74.3	74.0	65.6	59.8	70.9	82.5	92.7
.160	72.5	74.6	72.2	74.1	74.3	68.4	73.3	78.0	79.4	92.7
.200	75.0	60.2	73.8	77.2	75.1	74.2	75.7	78.2	79.8	93.7
.250	73.4	77.7	78.3	77.8	79.4	79.2	77.2	79.5	83.2	96.9
.315	79.2	81.2	81.4	80.0	79.7	78.8	78.4	80.6	86.5	99.0
.400	81.1	80.2	79.2	79.5	79.7	79.3	82.4	83.7	88.6	99.8
.500	79.9	78.4	80.3	80.0	81.8	83.4	85.2	88.1	91.4	102.2
.630	80.8	81.9	82.5	83.4	84.4	85.2	86.4	89.1	93.3	104.0
.800	83.5	82.8	83.9	85.6	87.0	86.7	88.4	91.7	95.8	106.2
1.00	85.5	84.4	84.8	86.1	87.9	88.0	89.0	92.4	96.6	107.1
1.25	85.0	86.2	86.9	87.7	88.4	88.8	90.9	94.0	97.2	108.3
1.60	85.8	85.9	86.8	87.8	89.0	89.7	91.4	94.4	97.5	108.7
2.00	86.6	87.5	87.9	88.7	90.1	91.1	93.1	96.0	98.3	110.0
2.50	87.4	87.6	87.5	89.2	90.6	91.4	93.5	96.4	98.0	110.2
3.15	87.6	88.3	88.8	90.4	91.6	92.4	94.6	96.8	97.5	110.8
4.00	88.5	88.9	89.1	90.8	92.3	93.6	95.5	97.4	97.4	111.5
5.00	89.6	90.1	90.2	91.8	93.3	94.4	96.5	97.6	97.0	112.2
6.30	89.9	90.3	90.9	92.3	93.8	95.0	96.6	97.4	96.6	112.4
8.00	90.9	90.7	91.6	92.5	94.5	95.4	96.8	97.6	96.6	112.7
10.0	91.3	91.5	91.5	92.7	94.6	95.5	96.4	97.4	96.5	112.7
12.5	92.2	91.7	92.1	93.4	94.9	95.8	96.5	97.0	96.2	112.9
16.0	95.1	93.7	92.8	94.0	95.5	96.1	96.5	96.8	96.1	113.4
20.0	99.4	96.2	93.8	93.9	95.4	96.0	95.9	95.9	95.1	114.1
25.0	104.1	100.7	96.1	95.1	96.0	96.0	95.5	95.9	95.1	116.4
31.5	105.9	103.7	99.8	96.9	96.4	95.7	95.4	95.1	93.9	118.3
40.0	105.4	104.2	102.1	99.6	97.5	96.2	95.0	94.2	92.9	119.0
50.0	103.8	103.2	102.4	101.6	99.5	97.2	95.5	94.0	92.2	119.0
63.0	102.8	102.2	101.8	101.4	100.9	98.9	95.8	94.0	92.0	118.8
80.0	102.4	101.5	100.8	100.7	100.8	99.6	96.8	94.3	91.8	118.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	112.6	111.1	109.6	108.9	108.8	108.4	108.4	109.2	109.6	OAPWL = 128.0

V_∞ =	198	fps
T_a =	53	°F
RH_a =	24	%
P_a =	14.47	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W031	315	05/03/76		-00 000000	XARF 0 3316	16

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.9	74.4	77.8	79.6	64.9	76.0	76.8	80.9	86.1
125	72.4	73.9	63.1	67.1	71.8	75.3	77.4	79.6	84.4
160	69.5	72.4	60.8	68.8	69.8	75.0	75.3	79.4	84.4
200	71.5	74.1	73.2	73.0	71.5	66.0	70.6	79.6	83.8
250	72.3	71.1	73.9	73.7	76.5	75.9	74.1	74.8	82.9
315	72.0	75.2	76.8	76.3	76.8	76.3	76.9	79.8	90.8
400	74.9	75.6	75.0	76.1	77.3	77.4	81.8	83.2	95.6
500	74.2	73.7	76.1	77.0	79.2	81.3	84.3	88.1	91.5
630	75.4	77.3	78.4	80.0	81.7	83.5	85.3	89.7	94.3
800	78.1	78.2	79.7	82.0	84.1	84.7	87.4	92.2	95.5
1000	79.7	79.8	80.5	82.5	85.0	85.8	87.7	92.4	95.6
1250	79.4	81.2	82.2	83.9	85.3	86.6	89.4	93.2	95.4
1600	80.0	80.8	82.1	83.9	85.9	87.3	89.5	93.3	95.0
2000	80.6	82.1	83.0	84.6	87.0	88.5	90.8	94.1	94.4
2500	81.5	82.4	82.9	84.9	87.1	88.7	91.1	93.9	93.1
3150	81.7	83.0	83.8	86.0	88.0	89.3	91.7	93.6	92.2
4000	82.5	83.3	84.1	86.1	88.6	90.2	91.8	93.4	91.1
5000	83.4	84.5	84.9	87.2	89.2	90.7	92.3	92.8	90.3
6300	83.3	84.3	85.5	87.3	89.4	90.8	92.0	91.9	89.4
8000	84.1	84.5	85.6	87.5	89.0	90.9	91.6	91.7	88.3
10000	84.5	85.4	85.9	87.6	89.8	90.6	91.1	91.3	87.6
12500	85.1	85.5	86.3	88.1	90.0	90.7	91.0	90.5	87.1
16000	85.5	85.9	86.2	87.9	90.0	90.5	90.6	90.1	86.6
20000	85.1	85.4	85.8	87.2	89.4	90.0	89.7	89.0	85.4
25000	85.5	85.7	85.9	87.4	89.6	89.7	89.0	88.7	84.7
31500	85.4	85.7	86.1	87.3	89.2	89.2	88.4	87.6	83.8
40000	85.4	85.5	85.9	86.8	88.6	88.7	87.6	86.3	83.0
50000	85.0	84.8	85.4	87.0	87.9	88.0	87.0	85.5	81.9
63000	84.1	84.3	85.1	86.0	87.2	87.1	85.8	84.7	81.4
80000	83.6	83.7	84.3	85.7	86.5	86.5	85.5	84.2	81.0
TSPL	97.0	97.5	98.1	99.7	101.7	102.5	103.4	105.0	105.7
SSPL	96.8	97.3	98.0	99.6	101.6	102.4	103.4	104.9	105.0

V_∞ =	198	fps
T_a =	52	°F
RH_a =	25	%
P_a =	14.47	psia

DECK LD DATE ENG MOD ENG NO STND C OBS C
H631 315 05/03/76 -00 000000 XARF 0 3316

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	97.9	98.0	98.3	99.5	101.1	101.5	102.1	103.5	105.0
SSPL	97.8	97.9	98.2	99.4	101.0	101.5	102.1	103.4	104.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	98.3	98.2	98.2	99.2	100.5	100.7	101.1	102.4	103.5
SSPL	96.1	98.0	98.1	99.1	100.4	100.6	101.0	102.3	102.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/03/76		-00 000000	XARF 0	3316 3316

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	77.2	75.2	78.2	78.3	63.6	73.6	74.3	76.2	80.5
125	73.7	74.0	62.7	66.9	70.8	73.3	74.7	75.8	78.9
160	70.8	72.5	60.7	68.5	68.7	73.0	72.8	74.7	78.9
200	72.8	74.8	73.1	72.3	70.1	64.3	66.8	73.2	79.3
250	73.6	71.8	74.0	73.3	75.3	74.3	72.1	71.1	75.0
315	73.3	76.0	76.8	75.7	75.6	74.5	74.3	75.1	81.1
400	76.2	76.2	75.1	75.6	76.1	75.5	78.6	79.2	84.8
500	75.5	74.4	76.3	76.5	78.1	79.3	81.2	83.8	87.1
630	76.7	78.1	78.6	79.5	80.6	81.6	82.5	85.0	89.1
800	79.4	78.9	80.0	81.6	82.9	82.8	84.3	87.5	91.2
1000	81.0	80.4	80.8	82.1	83.8	83.9	84.8	87.7	91.4
1250	80.7	82.0	82.4	83.4	84.1	84.7	86.4	89.1	91.8
1600	81.3	81.6	82.4	83.4	84.8	85.4	86.6	89.2	91.7
2000	81.9	82.9	83.2	84.1	85.9	86.6	87.9	90.3	92.1
2500	82.9	83.2	83.1	84.5	86.0	86.8	88.3	90.5	91.5
3150	83.0	83.7	84.1	85.6	86.9	87.4	88.9	90.5	90.8
4000	83.8	84.0	84.3	85.7	87.5	88.3	89.1	90.5	90.3
5000	84.8	85.3	85.1	86.8	88.0	88.8	89.7	90.4	89.6
6300	84.6	85.0	85.7	86.9	88.3	88.9	89.6	89.7	88.6
8000	85.4	85.2	85.8	87.1	88.7	89.1	89.3	89.5	88.2
10000	85.8	86.1	86.1	87.2	88.7	88.8	88.8	89.1	87.7
12500	86.5	86.2	86.4	87.6	88.8	88.9	88.7	88.5	86.9
16000	86.8	86.6	86.3	87.5	88.9	88.7	88.4	88.1	86.5
20000	86.4	86.0	85.9	86.7	88.2	88.2	87.6	87.1	85.3
25000	86.9	86.4	86.0	86.9	88.4	87.9	86.9	86.6	84.9
31500	86.7	86.3	86.2	86.8	88.0	87.5	86.4	85.7	83.8
40000	86.7	86.2	86.0	86.3	87.5	87.0	85.7	84.6	82.7
50000	86.4	85.5	85.6	86.5	86.7	86.3	85.1	83.9	81.8
63000	85.5	85.0	85.2	85.5	86.1	85.4	83.9	82.9	81.1
80000	85.0	84.3	84.5	85.2	85.3	84.8	83.6	82.4	80.6
TSPL	98.3	98.2	98.3	99.3	100.5	100.7	100.9	101.9	102.7
SSPL	98.2	98.0	98.2	99.2	100.5	100.6	100.9	101.8	102.5

V_{∞} =	198	fps
T_a =	52	°F
RH_a =	25	%
P_a =	14.47	psia

STAND XARF RIG ID VT=198 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3316 CONDITION 3316

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.80		1.53	1.80	THRUST,IDL	LB	28.0	28.6	N	124.4	127.1
TEMP	(R)	713.7	728.3	(K)	396.5	404.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.065	KG/M3	1.010	1.037	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	989.5	1165.0	M/S	301.6	355.1	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.2	75.2	78.2	78.3	63.6	73.6	74.3	76.2	80.5	94.5
.125	73.7	74.0	62.7	66.9	70.8	73.3	74.7	75.8	78.9	91.4
.160	70.8	72.5	60.7	68.5	68.7	73.0	72.8	74.7	78.9	90.3
.200	72.8	74.8	73.1	72.3	70.1	64.3	66.8	73.2	79.3	91.0
.250	73.6	71.8	74.0	73.3	75.3	74.3	72.1	71.1	75.0	91.8
.315	73.3	76.0	76.8	75.7	75.6	74.5	74.3	75.1	81.1	94.2
.400	76.2	76.2	75.1	75.6	76.1	75.5	78.6	79.2	84.8	95.8
.500	75.5	74.4	76.3	76.5	78.1	79.3	81.2	83.8	87.1	98.1
.630	76.7	78.1	78.6	79.5	80.6	81.6	82.5	85.0	89.1	100.1
.800	79.4	78.9	80.0	81.6	82.9	82.8	84.3	87.5	91.2	102.0
1.00	81.0	80.4	80.8	82.1	83.8	83.9	84.8	87.7	91.4	102.6
1.25	80.7	82.0	82.4	83.4	84.1	84.7	86.4	89.1	91.8	103.6
1.60	81.3	81.6	82.4	83.4	84.8	85.4	86.6	89.2	91.7	103.8
2.00	81.9	82.9	83.2	84.1	85.9	86.6	87.9	90.3	92.1	104.8
2.50	82.9	83.2	83.1	84.5	86.0	86.8	88.3	90.5	91.5	104.9
3.15	83.0	83.7	84.1	85.6	86.9	87.4	88.9	90.5	90.8	105.4
4.00	83.8	84.0	84.3	85.7	87.5	88.3	89.1	90.5	90.3	105.6
5.00	84.8	85.3	85.1	86.8	88.0	88.8	89.7	90.4	89.6	106.1
6.30	84.6	85.0	85.7	86.9	88.3	88.9	89.6	89.7	88.6	106.0
8.00	85.4	85.2	85.8	87.1	88.7	89.1	89.3	89.5	88.2	106.1
10.0	85.8	86.1	86.1	87.2	88.7	88.8	88.8	89.1	87.7	106.0
12.5	86.5	86.2	86.4	87.6	88.8	88.9	88.7	88.5	86.9	106.1
16.0	86.8	86.6	86.3	87.5	88.9	88.7	88.4	88.1	86.5	106.0
20.0	86.4	86.0	85.9	86.7	88.2	88.2	87.6	87.1	85.3	105.3
25.0	86.9	86.4	86.0	86.9	88.4	87.9	86.9	86.6	84.9	105.3
31.5	86.7	86.3	86.2	86.8	88.0	87.5	86.4	85.7	83.8	105.0
40.0	86.7	86.2	86.0	86.3	87.5	87.0	85.7	84.6	82.7	104.6
50.0	86.4	85.5	85.6	86.5	86.7	86.3	85.1	83.9	81.8	104.1
63.0	85.5	85.0	85.2	85.5	86.1	85.4	83.9	82.9	81.1	103.3
80.0	85.0	84.3	84.5	85.2	85.3	84.8	83.6	82.4	80.6	102.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.3	98.2	98.3	99.3	100.5	100.7	100.9	101.9	102.7	

V_∞ =	198	fps
T_a =	52	°F
RH_a =	25	%
P_a =	14.47	psia

OAPWL = 118.3

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/03/76		-00 000000	XARF	0	3317	3317

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	67.2	67.0	70.6	72.2	71.1	70.0	70.5	73.8	79.2
125	66.2	69.8	72.6	72.2	71.8	72.5	73.0	75.3	80.6
160	66.5	70.7	72.3	72.7	74.0	73.2	73.2	78.3	83.3
200	70.6	73.5	73.5	76.3	75.5	75.7	78.7	79.6	83.2
250	72.6	76.1	77.6	77.1	78.7	79.7	79.1	85.0	85.9
315	76.3	76.5	79.6	79.5	80.2	79.6	80.8	85.0	91.6
400	79.4	79.9	79.4	79.6	80.2	80.3	84.4	87.7	93.2
500	78.8	78.3	79.7	79.9	82.4	84.4	88.0	91.2	92.9
630	78.7	80.5	81.5	83.2	85.1	86.7	88.5	92.8	97.0
800	81.2	81.8	83.3	86.1	87.6	87.5	90.0	95.0	97.7
1000	82.8	82.3	84.2	85.7	87.4	88.6	90.9	95.2	98.5
1250	82.5	84.2	85.6	87.0	88.3	89.7	92.2	96.1	98.0
1600	82.7	83.7	85.2	86.7	88.8	90.3	92.3	96.0	97.4
2000	83.5	85.2	85.8	87.5	89.8	91.0	93.4	96.4	96.5
2500	84.6	85.1	85.8	87.8	90.1	91.2	93.6	96.2	95.3
3150	84.5	85.7	86.7	89.0	90.7	91.9	94.1	95.8	94.8
4000	85.0	85.8	86.9	88.8	91.1	92.3	94.1	95.7	93.7
5000	85.8	87.0	87.5	89.7	91.6	93.1	94.7	95.1	93.1
6300	85.6	86.6	87.9	89.7	91.7	93.0	94.3	94.3	92.6
8000	86.1	86.5	87.8	89.7	92.0	93.1	94.0	94.0	91.6
10000	86.4	87.2	87.9	89.6	91.8	92.7	93.5	93.6	90.7
12500	86.6	87.2	88.1	89.8	91.9	92.6	93.2	92.7	90.1
16000	86.8	87.3	88.0	89.9	91.9	92.6	92.7	91.9	89.4
20000	86.5	86.9	87.5	89.1	91.3	91.7	91.7	90.6	87.9
25000	86.6	87.2	87.5	88.9	91.2	91.3	90.6	90.2	87.1
31500	86.3	86.8	87.4	88.5	90.6	90.4	89.9	88.8	85.5
40000	86.2	86.3	87.0	88.2	89.7	89.6	88.7	87.2	84.4
50000	85.6	85.5	86.4	88.0	89.0	88.6	87.9	86.0	83.0
63000	84.6	85.0	85.8	86.8	88.1	87.7	86.7	85.1	82.3
80000	84.1	84.2	85.0	86.1	87.6	86.9	85.9	84.2	81.4
TSPL	98.6	99.3	100.2	101.8	103.8	104.5	105.7	107.3	107.8
SSPL	98.5	99.2	100.0	101.7	103.7	104.5	105.7	107.2	107.5

V_∞ =	99	fps
T_a =	53	°F
RH_a =	26	%
P_a =	14.72	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3317 3017

= DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	99.1	99.5	100.2	101.7	103.4	104.0	105.0	106.5	107.0
SSPL	98.9	99.4	100.1	101.6	103.4	104.0	105.0	106.4	106.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	99.3	99.6	100.2	101.6	103.2	103.6	104.5	105.9	106.4
SSPL	99.2	99.5	100.1	101.5	103.1	103.6	104.5	105.8	106.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS C PR
H631 315 05/03/76 -00 000000 XARF 0 3317 J7

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	67.9	67.4	70.7	71.9	70.5	69.1	69.1	71.4	75.6
125	66.9	70.3	72.7	71.9	71.2	71.6	71.7	73.1	76.9
160	67.2	71.2	72.4	73.5	73.4	72.3	71.8	75.5	80.1
200	71.2	73.9	73.6	76.1	74.9	74.8	77.2	77.8	80.1
250	73.3	76.5	77.6	76.8	78.1	78.8	77.7	82.4	84.7
315	76.9	78.9	79.6	79.2	79.6	78.7	79.3	82.3	87.5
400	80.0	80.2	79.4	79.3	79.6	79.3	82.7	85.3	89.5
500	79.4	78.6	79.8	79.7	81.9	83.4	86.4	89.2	91.0
630	79.4	80.9	81.6	83.0	84.6	85.7	87.0	90.3	94.1
800	81.9	82.2	83.4	85.9	87.0	86.6	88.4	92.5	95.6
1000	83.5	82.7	84.3	85.5	86.9	87.6	89.3	92.8	96.0
1250	83.2	84.6	85.7	86.8	87.8	88.7	90.6	93.9	96.1
1600	83.4	84.1	85.3	86.5	88.3	89.4	90.8	93.9	95.7
2000	84.2	85.6	85.9	87.3	89.3	90.1	91.9	94.5	95.4
2500	85.3	85.5	85.9	87.7	89.6	90.3	92.1	94.5	94.6
3150	85.1	86.0	86.8	88.8	90.1	90.9	92.6	94.2	94.0
4000	85.6	86.2	87.0	88.6	90.6	91.3	92.7	94.2	93.4
5000	86.4	87.4	87.6	89.5	91.1	92.1	93.4	93.9	92.7
6300	86.3	87.0	88.0	89.5	91.2	92.1	93.0	93.1	92.0
8000	86.8	86.9	87.9	89.6	91.5	92.2	92.8	92.9	91.4
10000	87.1	87.6	88.0	89.4	91.3	91.8	92.3	92.5	90.7
12500	87.2	87.5	88.1	89.6	91.3	91.6	92.0	91.7	89.8
16000	87.5	87.7	88.1	89.7	91.4	91.7	91.6	90.9	89.1
20000	87.1	87.2	87.6	88.9	90.7	90.8	90.6	89.7	87.6
25000	87.2	87.5	87.5	88.7	90.6	90.4	89.5	89.2	87.1
31500	86.9	87.1	87.4	88.3	90.0	89.5	88.8	87.9	85.5
40000	86.9	86.7	87.1	88.0	89.2	88.8	87.7	86.4	84.2
50000	86.3	85.9	86.5	87.6	88.4	87.8	86.9	85.3	82.8
63000	85.3	85.4	85.9	86.6	87.6	86.9	85.7	84.3	82.1
80000	84.8	84.6	85.1	85.9	87.0	86.1	84.9	83.4	81.1
TSPL	99.3	99.7	100.3	101.6	103.2	103.6	104.4	105.7	106.3
SSPL	99.2	99.5	100.1	101.5	103.2	103.6	104.3	105.6	106.0

V_∞ =	99	fps
T_a =	53	°F
RH_a =	26	%
P_a =	14.72	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3317 CONDITION 3317

		PRIMARY	FAN		PRIMARY	FAN		PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.80		1.53	1.80	THRUST,IDL LB	28.5	29.0	N	126.9	129.1
TEMP	(R)	710.7	732.7	(K)	394.8	407.1	THRUST,MEA LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.064	KG/M3	1.015	1.030	AREA (MOD) SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	987.7	1168.0	M/S	301.1	356.0	W (MODEL) LB/S	0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	67.9	67.4	70.7	71.9	70.5	69.1	69.1	71.4	75.6	88.8
.125	66.9	70.3	72.7	71.9	71.2	71.6	71.7	73.1	76.9	90.3
.160	67.2	71.2	72.4	73.5	73.4	72.3	71.8	75.5	80.1	91.7
.200	71.2	73.9	73.6	76.1	74.9	74.8	77.2	77.8	80.1	94.0
.250	73.3	76.5	77.6	76.8	78.1	78.8	77.7	82.4	84.7	97.1
.315	76.9	78.9	79.6	79.2	79.6	78.7	79.3	82.3	87.5	98.6
.400	80.0	80.2	79.4	79.3	79.6	79.3	82.7	85.3	89.5	100.2
.500	79.4	78.6	79.8	79.7	81.9	83.4	86.4	89.2	91.0	102.5
.630	79.4	80.9	81.6	83.0	84.6	85.7	87.0	90.3	94.1	104.5
.800	81.9	82.2	83.4	85.9	87.0	86.6	88.4	92.5	95.6	106.3
1.00	83.5	82.7	84.3	85.5	86.9	87.6	89.3	92.8	96.0	106.7
1.25	83.2	84.6	85.7	86.8	87.8	88.7	90.6	93.9	96.1	107.7
1.60	83.4	84.1	85.3	86.5	88.3	89.4	90.8	93.9	95.7	107.7
2.00	84.2	85.6	85.9	87.3	89.3	90.1	91.9	94.5	95.4	108.4
2.50	85.3	85.5	85.9	87.7	89.6	90.3	92.1	94.5	94.6	108.4
3.15	85.1	86.0	86.8	88.8	90.1	90.9	92.6	94.2	94.0	108.7
4.00	85.6	86.2	87.0	88.6	90.6	91.3	92.7	94.2	93.4	108.8
5.00	86.4	87.4	87.6	89.5	91.1	92.1	93.4	93.9	92.7	109.2
6.30	86.3	87.0	88.0	89.5	91.2	92.1	93.0	93.1	92.0	109.0
8.00	86.8	86.9	87.9	89.6	91.5	92.2	92.8	92.9	91.4	109.0
10.0	87.1	87.6	88.0	89.4	91.3	91.8	92.3	92.5	90.7	108.7
12.5	87.2	87.5	88.1	89.6	91.3	91.6	92.0	91.7	89.8	108.5
16.0	87.5	87.7	88.1	89.7	91.4	91.7	91.6	90.9	89.1	108.4
20.0	87.1	87.2	87.6	88.9	90.7	90.8	90.6	89.7	87.6	107.6
25.0	87.2	87.5	87.5	88.7	90.6	90.4	89.5	89.2	87.1	107.3
31.5	86.9	87.1	87.4	88.3	90.0	89.5	88.8	87.9	85.5	106.6
40.0	86.9	86.7	87.1	88.0	89.2	88.8	87.7	86.4	84.2	106.0
50.0	86.3	85.9	86.5	87.8	88.4	87.8	86.9	85.3	82.8	105.3
63.0	85.3	85.4	85.9	86.6	87.6	86.9	85.7	84.3	82.1	104.4
80.0	84.8	84.6	85.1	85.9	87.0	86.1	84.9	83.4	81.1	103.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.3	99.7	100.3	101.6	103.2	103.6	104.4	105.7	106.3	OAPWL = 121.2

V_∞ =	99	fps
T_a =	53	°F
RH_a =	26	%
P_a =	14.72	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3320 3?2(

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	65.0	64.1	68.4	70.1	69.4	68.1	68.1	70.1	76.3
125	64.1	67.1	70.2	69.7	70.0	70.9	71.4	72.7	78.0
160	64.7	68.5	70.5	71.7	72.0	71.1	71.3	76.2	81.3
200	68.4	71.4	71.6	74.3	73.7	73.9	76.7	77.5	81.0
250	70.8	74.2	75.4	75.1	77.0	77.7	77.2	82.8	83.8
315	74.6	76.9	77.8	77.7	78.4	77.9	79.1	83.2	90.0
400	77.5	77.9	77.4	77.9	78.2	78.6	82.5	85.6	91.2
500	77.0	76.4	77.8	77.8	80.3	82.5	86.0	89.1	91.1
630	76.9	78.8	79.5	81.0	83.0	84.6	86.4	90.7	95.4
800	79.3	79.8	81.1	83.7	85.3	85.3	87.6	92.7	95.8
1000	80.6	80.2	82.2	83.4	85.2	86.5	88.5	92.9	96.7
1250	80.5	82.0	83.1	84.6	86.2	87.4	90.0	93.7	96.2
1600	80.4	81.5	83.0	84.5	86.6	88.1	90.0	93.5	95.7
2000	81.3	82.9	83.5	85.1	87.5	88.6	90.7	94.0	94.7
2500	82.0	82.7	83.3	85.4	87.6	88.6	90.7	93.7	93.4
3150	81.9	83.3	84.2	86.3	88.3	89.1	91.0	93.2	92.3
4000	82.6	83.3	84.0	86.1	88.4	89.5	90.9	92.8	90.7
5000	83.3	84.3	84.8	86.8	88.6	89.8	91.0	91.8	89.7
6300	82.8	83.7	84.8	86.7	88.3	89.3	90.3	90.5	88.5
8000	83.5	83.9	85.0	86.6	88.5	89.2	89.8	89.9	87.1
10000	83.6	84.5	84.9	86.5	88.3	88.7	89.0	89.2	85.8
12500	83.5	84.1	85.0	86.6	88.3	88.4	88.3	87.8	84.8
16000	84.2	84.6	85.0	86.5	88.3	88.1	87.6	86.8	83.8
20000	84.6	84.7	85.3	86.0	87.7	87.1	86.5	85.4	82.5
25000	84.9	85.1	85.1	86.3	88.0	86.7	85.4	84.9	81.6
31500	84.8	85.0	85.0	86.1	87.3	85.9	84.5	83.4	80.3
40000	84.9	84.7	85.1	85.5	86.7	85.2	83.6	82.2	79.2
50000	84.4	84.1	84.3	85.6	85.7	84.5	82.8	81.5	78.1
63000	83.1	83.2	83.7	84.2	84.9	83.8	81.9	80.7	77.4
80000	82.2	81.9	82.4	83.4	84.2	83.3	81.3	79.9	76.7
TSPL	96.5	97.0	97.7	99.1	100.8	101.1	102.2	104.3	105.6
SSPL	96.4	96.9	97.5	99.0	100.7	101.1	102.1	104.2	105.2

V_∞ =	100	fps
T_a =	58	°F
RH_a =	24	%
P_a =	14.72	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/03/76 -00 000000 XARF 0 3320 3220

OBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	96.9	97.2	97.7	99.0	100.4	100.6	101.5	103.5	104.8
SSPL	96.8	97.1	97.6	98.8	100.3	100.5	101.4	103.3	104.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	97.1	97.4	97.7	98.8	100.2	100.2	101.0	103.0	104.1
SSPL	97.0	97.2	97.5	98.7	100.1	100.2	100.9	102.8	103.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CO
W631	315	05/03/76		-00 000000	XARF	0	3320	3

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	65.7	64.5	68.6	69.8	68.7	67.2	66.8	67.8	72.1
125	64.8	67.6	70.3	69.4	69.4	70.0	70.1	70.7	74.2
160	65.3	69.0	70.6	71.4	71.4	70.2	69.9	73.5	78.0
200	69.1	71.8	71.7	74.1	73.1	73.0	75.3	75.8	78.0
250	71.5	74.6	75.4	74.8	76.4	76.8	75.8	80.2	82.5
315	75.2	77.3	77.8	77.4	77.8	77.0	77.6	80.5	85.8
400	78.1	78.2	77.4	77.6	77.6	77.6	80.8	83.2	87.5
500	77.6	76.7	77.8	77.6	79.8	81.5	84.4	87.0	89.1
630	77.5	79.2	79.6	80.8	82.5	83.6	84.9	88.2	92.2
800	80.0	80.2	81.2	83.5	84.7	84.4	86.0	90.1	93.5
1000	81.3	80.6	82.3	83.2	84.7	85.6	87.0	90.4	94.0
1250	81.2	82.4	83.2	84.4	85.7	86.4	88.4	91.5	94.0
1600	81.1	81.9	83.1	84.3	86.1	87.2	88.5	91.3	93.6
2000	82.0	83.3	83.6	84.9	87.0	87.7	89.2	92.0	93.3
2500	82.7	83.1	83.4	85.3	87.1	87.7	89.2	91.9	92.5
3150	82.5	83.6	84.2	86.1	87.7	88.1	89.5	91.5	91.5
4000	83.2	83.6	84.1	85.9	87.8	88.5	89.5	91.3	90.5
5000	83.9	84.7	84.9	86.6	88.0	88.8	89.7	90.5	89.4
6300	83.5	84.1	84.9	86.5	87.8	88.4	89.1	89.3	88.1
8000	84.2	84.3	85.1	86.4	88.0	88.3	88.6	88.8	87.1
10000	84.3	84.9	85.0	86.3	87.7	87.8	87.8	88.1	86.0
12500	84.1	84.4	85.0	86.4	87.7	87.5	87.1	86.8	84.7
16000	84.9	85.0	85.1	86.3	87.7	87.2	86.5	85.9	83.7
20000	85.2	85.0	85.3	85.8	87.1	86.2	85.4	84.5	82.3
25000	85.5	85.4	85.1	86.0	87.4	85.8	84.3	83.9	81.7
31500	85.4	85.3	85.0	85.9	86.7	85.1	83.5	82.5	80.2
40000	85.6	85.1	85.2	85.3	86.1	84.4	82.7	81.4	79.1
50000	85.1	84.4	84.4	85.4	85.1	83.7	81.9	80.7	78.2
63000	83.7	83.6	83.7	84.0	84.3	83.0	80.9	79.8	77.4
80000	82.9	82.3	82.5	83.1	83.6	82.4	80.4	79.0	76.7
TSPL	97.1	97.4	97.7	98.9	100.2	100.2	100.8	102.5	103.7
SSPL	97.0	97.2	97.6	98.8	100.1	100.1	100.7	102.4	103.4

V_∞ =	100	fps
T_a =	58	°F
RH_a =	24	%
P_a =	14.72	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=100 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3320 CONDITION 3320

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	1.53		1.53	1.53	THRUST,IDL	LB		28.6	20.0	N	127.2	89.0
TEMP	(R)		701.3	735.3	(K)	389.6	408.5	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.064	0.061	KG/M3	1.028	0.981	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		979.6	1007.0	M/S	298.6	306.9	W (MODEL)	LB/S		0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	65.7	64.5	68.6	69.8	68.7	67.2	66.8	67.8	72.1	86.4
.125	64.8	67.6	70.3	69.4	69.4	70.0	70.1	70.7	74.2	88.1
.160	65.3	69.0	70.6	71.4	71.4	70.2	69.9	73.5	78.0	89.7
.200	69.1	71.8	71.7	74.1	73.1	73.0	75.3	75.8	78.0	92.0
.250	71.5	74.6	75.4	74.8	76.4	76.8	75.8	80.2	82.5	95.0
.315	75.2	77.3	77.8	77.4	77.8	77.0	77.6	80.5	85.8	96.9
.400	78.1	78.2	77.4	77.6	77.6	77.6	80.8	83.2	87.5	98.3
.500	77.6	76.7	77.8	77.6	79.8	81.5	84.4	87.0	89.1	100.5
.630	77.5	79.2	79.6	80.8	82.5	83.6	84.9	88.2	92.2	102.4
.800	80.0	80.2	81.2	83.5	84.7	84.4	86.0	90.1	93.5	104.0
1.00	81.3	80.6	82.3	83.2	84.7	85.6	87.0	90.4	94.0	104.5
1.25	81.2	82.4	83.2	84.4	85.7	86.4	88.4	91.5	94.0	105.4
1.60	81.1	81.9	83.1	84.3	86.1	87.2	88.5	91.3	93.6	105.4
2.00	82.0	83.3	83.6	84.9	87.0	87.7	89.2	92.0	93.3	105.9
2.50	82.7	83.1	83.4	85.3	87.1	87.7	89.2	91.9	92.5	105.9
3.15	82.5	83.6	84.2	86.1	87.7	88.1	89.5	91.5	91.5	106.0
4.00	83.2	83.6	84.1	85.9	87.8	88.5	89.5	91.3	90.5	105.9
5.00	83.9	84.7	84.9	86.6	88.0	88.8	89.7	90.5	89.4	106.0
6.30	83.5	84.1	84.9	86.5	87.8	88.4	89.1	89.3	88.1	105.5
8.00	84.2	84.3	85.1	86.4	88.0	88.3	88.6	88.8	87.1	105.3
10.0	84.3	84.9	85.0	86.3	87.7	87.8	87.8	88.1	86.0	105.0
12.5	84.1	84.4	85.0	86.4	87.7	87.5	87.1	86.8	84.7	104.6
16.0	84.9	85.0	85.1	86.3	87.7	87.2	86.5	85.9	83.7	104.5
20.0	85.2	85.0	85.3	85.8	87.1	86.2	85.4	84.5	82.3	103.9
25.0	85.5	85.4	85.1	86.0	87.4	85.8	84.3	83.9	81.7	103.8
31.5	85.4	85.3	85.0	85.9	86.7	85.1	83.5	82.5	80.2	103.4
40.0	85.6	85.1	85.2	85.3	86.1	84.4	82.7	81.4	79.1	103.0
50.0	85.1	84.4	84.4	85.4	85.1	83.7	81.9	80.7	78.2	102.4
63.0	83.7	83.6	83.7	84.0	84.3	83.0	80.9	79.8	77.4	101.4
80.0	82.9	82.3	82.5	83.1	83.6	82.4	80.4	79.0	76.7	100.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	97.2	97.4	97.7	98.9	100.2	100.2	100.8	102.5	103.7	OAPWL = 118.2

V_∞ =	100	fps
T_a =	58	°F
RH_a =	24	%
P_a =	14.72	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS COR
W631	315	05/03/76		-00 000000	XARF 0 3321	3321

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.5	72.7	77.4	79.2	78.2	75.2	76.6	81.0	86.9
125	74.6	69.3	76.1	75.9	69.5	74.4	76.6	79.6	84.9
160	71.8	63.4	59.0	62.4	67.4	74.4	75.0	78.9	84.1
200	73.2	65.6	72.6	69.3	67.9	74.2	76.3	79.2	83.7
250	65.1	73.5	71.5	71.5	74.1	72.9	69.1	81.2	81.4
315	72.0	75.4	74.2	73.8	74.7	73.7	73.9	70.8	89.7
400	74.1	75.4	72.3	73.8	75.0	75.0	79.4	79.6	95.4
500	72.6	73.1	73.5	74.7	76.9	78.9	81.7	85.2	89.3
630	73.4	75.6	75.9	77.8	79.5	81.0	82.8	86.7	91.4
800	76.2	76.2	77.3	79.5	81.4	82.1	84.6	89.1	92.7
1000	77.6	77.5	78.1	80.0	82.1	83.2	84.9	89.5	92.8
1250	77.0	78.8	79.8	81.2	82.7	83.8	86.6	90.1	92.4
1600	77.7	78.5	79.9	81.4	83.2	84.5	86.6	90.3	92.1
2000	78.0	79.4	80.4	81.9	84.3	85.6	87.6	90.9	91.4
2500	79.0	79.8	80.5	82.3	84.4	85.8	87.7	90.8	90.1
3150	79.2	80.4	81.3	83.2	85.0	86.3	88.1	90.3	89.0
4000	79.6	80.8	81.5	83.3	85.7	86.8	88.3	89.9	87.3
5000	81.0	82.0	82.3	84.2	86.1	87.2	88.4	88.9	86.1
6300	81.0	81.7	82.9	84.5	86.1	87.0	87.8	87.9	85.0
8000	82.1	82.2	83.3	84.8	86.6	87.0	87.3	87.1	83.7
10000	82.3	82.9	83.5	84.6	86.2	86.5	86.7	86.6	82.6
12500	82.5	82.9	83.6	85.0	86.6	86.6	86.2	85.5	82.0
16000	83.4	83.4	83.6	85.0	86.6	86.3	85.9	84.8	81.5
20000	83.8	83.6	84.0	84.6	86.1	85.6	84.8	83.6	80.1
25000	84.0	84.0	84.0	84.9	86.2	85.1	84.0	83.4	79.6
31500	84.0	84.0	84.0	84.8	85.9	84.7	83.4	82.1	78.5
40000	84.2	83.8	84.1	84.8	85.3	84.4	82.6	81.2	77.9
50000	83.5	83.1	83.5	84.6	84.6	83.6	82.2	80.3	77.2
63000	81.9	82.0	82.8	83.3	83.6	82.9	81.1	79.6	76.7
80000	80.3	80.3	81.6	82.8	82.8	82.4	80.6	79.0	76.5
TSPL	95.1	95.3	95.9	97.1	98.5	98.8	99.6	101.4	103.2
SSPL	94.8	95.1	95.7	96.9	98.4	98.7	99.4	101.2	101.8

V_∞ =	198	fps
T_a =	52	°F
RH_a =	25	%
P_a =	14.47	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3321 3321

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	96.0	95.8	96.1	96.9	97.9	97.9	98.3	99.9	102.5
SSPL	95.8	95.6	95.9	96.7	97.8	97.8	98.1	99.7	101.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	96.4	96.0	96.0	96.6	97.3	97.0	97.2	98.8	101.0
SSPL	96.1	95.8	95.8	96.4	97.2	96.9	97.1	98.6	99.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

V_∞ =	198	fps
T_n =	52	°F
RH =	[illegible]	%
P_n =	14.47	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CODE
W631 315 05/03/76 -00 000000 XARF 0 3321 3321

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	78.8	73.4	77.9	78.6	76.9	73.5	73.7	76.2	80.8
125	75.9	70.0	76.6	74.9	68.3	72.3	73.8	75.5	79.1
160	73.1	63.4	59.0	62.2	66.5	72.3	72.5	74.3	78.4
200	74.5	66.3	72.8	68.5	66.8	72.0	73.6	75.2	78.4
250	66.4	74.4	71.3	71.0	73.0	71.3	66.7	73.5	79.9
315	73.3	76.2	74.0	73.2	73.4	72.0	71.9	67.8	74.0
400	75.4	76.0	72.2	73.3	73.8	73.0	76.3	75.7	82.1
500	73.9	73.8	73.6	74.2	75.8	76.9	78.7	81.0	84.3
630	74.8	76.4	76.0	77.3	78.3	79.1	80.0	82.2	86.1
800	77.5	76.9	77.5	79.1	80.3	80.3	81.5	84.5	88.2
1000	78.9	78.2	78.3	79.5	81.0	81.3	82.0	84.8	88.5
1250	78.3	79.6	79.9	80.7	81.5	81.9	83.6	86.1	88.7
1600	79.0	79.3	80.1	81.0	82.0	82.6	83.7	86.2	88.8
2000	79.3	80.2	80.6	81.5	83.1	83.7	84.8	87.1	88.9
2500	80.3	80.5	80.6	81.9	83.3	83.9	84.9	87.2	88.4
3150	80.5	81.2	81.5	82.8	83.9	84.4	85.4	87.1	87.6
4000	81.2	81.5	81.7	82.9	84.5	84.9	85.7	87.0	86.7
5000	82.3	82.7	82.5	83.7	84.9	85.3	85.9	86.5	85.6
6300	82.3	82.5	83.1	84.0	84.9	85.2	85.4	85.6	84.5
8000	83.4	82.9	83.5	84.4	85.5	85.2	85.1	85.0	83.6
10000	83.7	83.7	83.6	84.1	85.0	84.7	84.4	84.5	82.8
12500	83.8	83.6	83.8	84.5	85.4	84.8	84.1	83.5	81.8
16000	84.7	84.0	83.7	84.5	85.4	84.6	83.8	83.0	81.2
20000	85.1	84.2	84.0	84.1	84.9	83.9	82.8	81.8	79.9
25000	85.4	84.7	84.0	84.4	85.0	83.4	82.0	81.4	79.6
31500	85.3	84.6	84.0	84.3	84.7	83.0	81.5	80.4	78.3
40000	85.5	84.4	84.2	84.3	84.1	82.8	80.8	79.5	77.6
50000	84.8	83.8	83.6	84.0	83.4	81.9	80.4	78.8	76.7
63000	83.2	82.7	82.8	82.7	82.4	81.2	79.3	77.9	76.1
80000	81.6	81.0	81.8	82.2	81.6	80.7	78.8	77.3	75.6
TSPL	96.4	96.0	96.0	96.6	97.3	97.0	97.1	98.1	99.3
SSPL	96.1	95.8	95.8	96.5	97.2	96.9	97.0	98.0	98.9

V_∞ =	198	fps
T_a =	52	°F
RH_a =	25	%
P_a =	14.47	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3321 CONDITION 3321

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.54		1.52	1.54	THRUST,IDL	LB	27.8	13.4	N	123.6	59.7
TEMP	(R)	693.0	727.3	(K)	385.0	404.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.062	KG/M3	1.040	0.993	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	972.6	1005.0	M/S	296.4	306.3	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	78.8	73.4	77.9	78.6	76.9	73.5	73.7	76.2	80.8	95.1
.125	75.9	70.0	76.6	74.9	68.3	72.3	73.8	75.5	79.1	92.6
.160	73.1	63.4	59.0	62.2	66.5	72.3	72.5	74.3	78.4	89.1
.200	74.5	66.3	72.8	68.5	66.8	72.0	73.6	75.2	78.4	90.7
.250	66.4	74.4	71.3	71.0	73.0	71.3	66.7	73.5	79.9	91.0
.315	73.3	76.2	74.0	73.2	73.4	72.0	71.9	67.8	74.0	91.8
.400	75.4	76.0	72.2	73.3	73.8	73.0	76.3	75.7	82.1	93.6
.500	73.9	73.8	73.6	74.2	75.8	76.9	78.7	81.0	84.3	95.6
.630	74.8	76.4	76.0	77.3	78.3	79.1	80.0	82.2	86.1	97.5
.800	77.5	76.9	77.5	79.1	80.3	80.3	81.5	84.5	88.2	99.3
1.00	78.9	78.2	78.3	79.5	81.0	81.3	82.0	84.8	88.5	99.9
1.25	78.3	79.6	79.9	80.7	81.5	81.9	83.6	86.1	88.7	100.8
1.60	79.0	79.3	80.1	81.0	82.0	82.6	83.7	86.2	88.8	101.1
2.00	79.3	80.2	80.6	81.5	83.1	83.7	84.8	87.1	88.9	101.8
2.50	80.3	80.5	80.6	81.9	83.3	83.9	84.9	87.2	88.4	101.9
3.15	80.5	81.2	81.5	82.8	83.9	84.4	85.4	87.1	87.6	102.3
4.00	81.2	81.5	81.7	82.9	84.5	84.9	85.7	87.0	86.7	102.5
5.00	82.3	82.7	82.5	83.7	84.9	85.3	85.9	86.5	85.6	102.8
6.30	82.3	82.5	83.1	84.0	84.9	85.2	85.4	85.6	84.5	102.6
8.00	83.4	82.9	83.5	84.4	85.5	85.2	85.1	85.0	83.6	102.7
10.0	83.7	83.7	83.6	84.1	85.0	84.7	84.4	84.5	82.8	102.5
12.5	83.8	83.6	83.8	84.5	85.4	84.8	84.1	83.5	81.8	102.5
16.0	84.7	84.0	83.7	84.5	85.4	84.6	83.8	83.0	81.2	102.5
20.0	85.1	84.2	84.0	84.1	84.9	83.9	82.8	81.8	79.9	102.2
25.0	85.4	84.7	84.0	84.4	85.0	83.4	82.0	81.4	79.6	102.2
31.5	85.3	84.6	84.0	84.3	84.7	83.0	81.5	80.4	78.3	102.0
40.0	85.5	84.4	84.2	84.3	84.1	82.8	80.8	79.5	77.6	101.8
50.0	84.8	83.8	83.6	84.0	83.4	81.9	80.4	78.8	76.7	101.2
63.0	83.2	82.7	82.8	82.7	82.4	81.2	79.3	77.9	76.1	100.1
80.0	81.6	81.0	81.8	82.2	81.6	80.7	78.8	77.3	75.6	99.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	96.4	96.0	96.0	96.6	97.3	97.0	97.1	98.1	99.3	

V_∞ =	198	fps
T_a =	52	°F
RH_a =	25	%
P_a =	14.47	psia

OAPWL = 115.2

DECK LD DATE ENG MOD ENG NO STNO C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3322 3377

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.5	78.4	76.5	78.4	77.3	74.8	76.5	80.4	86.6
125	75.0	76.0	74.9	75.2	68.2	73.5	76.4	78.9	84.3
160	56.4	73.3	70.8	72.1	61.8	73.8	74.5	78.3	83.4
200	73.4	71.2	71.3	64.5	63.1	73.3	74.9	77.8	82.2
250	56.4	73.5	67.6	67.1	71.8	69.1	74.1	79.7	78.5
315	70.2	75.0	70.7	71.2	72.2	70.5	70.2	79.4	88.5
400	72.1	75.8	70.0	71.2	72.9	72.5	77.0	73.2	95.5
500	71.1	73.3	70.8	72.2	74.6	76.7	79.4	82.5	87.4
630	72.4	75.0	73.7	75.5	77.4	78.7	80.6	84.1	89.2
800	74.3	75.1	74.7	77.4	79.2	79.9	82.1	86.6	90.5
1000	75.2	76.0	75.8	77.9	80.2	80.9	82.4	87.1	90.7
1250	75.0	76.9	77.6	79.2	80.4	81.6	84.1	87.7	90.4
1600	75.7	77.0	77.7	79.4	81.0	82.2	84.2	88.1	90.4
2000	75.8	77.4	78.3	79.8	81.9	83.4	85.2	88.5	89.7
2500	76.8	77.8	78.2	80.2	82.1	83.2	85.3	88.4	88.5
3150	76.9	78.1	79.0	80.9	82.6	83.6	85.5	87.9	87.3
4000	77.8	78.5	79.0	80.7	82.8	83.8	85.2	87.5	85.5
5000	78.7	79.8	79.8	81.3	82.8	83.7	85.2	86.2	84.0
6300	79.6	80.0	80.7	81.8	83.1	83.4	84.2	84.5	82.4
8000	81.4	80.9	81.7	82.7	83.5	83.4	83.3	83.6	80.6
10000	81.8	81.7	81.8	81.9	83.0	82.8	83.0	83.1	79.4
12500	81.5	81.5	81.6	82.4	83.4	82.6	82.0	81.3	78.1
16000	82.4	82.3	82.3	83.0	83.6	82.0	80.7	79.8	76.4
20000	83.2	82.6	82.3	82.8	83.4	81.4	79.6	78.4	74.6
25000	83.6	83.3	83.4	83.2	84.1	81.7	78.8	78.1	74.2
31500	84.2	83.9	83.3	83.5	84.0	81.6	78.9	77.3	73.5
40000	84.2	83.6	83.4	83.4	83.4	81.0	77.8	76.2	73.5
50000	83.2	82.3	82.9	83.2	82.4	80.3	77.5	75.5	73.3
63000	81.1	80.9	81.6	81.4	81.3	79.1	76.0	74.6	73.2
80000	78.5	78.4	80.0	80.3	80.1	78.4	75.5	73.5	73.1
TSPL	94.2	94.3	94.4	95.1	95.9	95.7	96.4	98.7	101.7
SSPL	94.0	93.9	94.1	94.9	95.8	95.5	96.2	98.4	99.7

V_∞ =	198	fps
T_a =	52	°F
RH_a =	26	%
P_a =	14.48	psia

DECK LD DATE ENG MOD ENG ND STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3322 3327

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	95.1	94.9	94.5	94.9	95.4	94.7	95.1	97.2	101.0
SSPL	94.9	94.5	94.3	94.7	95.2	94.6	94.9	96.9	99.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	95.5	95.1	94.4	94.5	94.8	93.9	94.1	96.1	99.5
SSPL	95.3	94.7	94.2	94.3	94.6	93.7	93.8	95.8	97.5

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

ORIGINAL PAGE IS OF POOR QUALITY

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3322 3347

----- DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.8	79.0	76.5	77.8	76.0	73.1	73.6	75.8	80.3
125	76.3	76.6	74.9	74.2	67.0	71.4	73.5	75.0	78.4
160	57.7	74.7	70.8	71.0	60.7	71.4	72.0	73.8	77.8
200	74.7	71.8	70.7	63.5	62.1	71.0	72.3	73.7	77.0
250	57.7	74.6	67.1	66.7	70.6	67.3	70.5	75.2	77.4
315	71.5	75.6	70.4	70.7	71.0	68.8	67.4	72.2	80.7
400	73.4	76.3	69.7	70.8	71.7	70.6	74.2	70.4	77.5
500	72.4	73.9	70.7	71.8	73.5	74.8	76.5	78.4	81.9
630	73.7	75.7	73.8	75.1	76.3	76.8	77.8	79.8	83.6
800	75.6	75.8	74.9	77.0	78.0	78.0	79.1	82.0	85.7
1000	76.5	76.7	76.0	77.5	79.0	79.1	79.6	82.4	86.2
1250	76.3	77.7	77.7	78.7	79.3	79.7	81.1	83.5	86.4
1600	77.0	77.7	77.9	78.9	79.9	80.3	81.3	83.8	86.7
2000	77.1	78.2	78.5	79.4	80.8	81.5	82.4	84.6	86.7
2500	78.1	78.5	78.4	79.7	81.0	81.3	82.5	84.7	86.3
3150	78.3	78.9	79.2	80.4	81.5	81.7	82.8	84.6	85.5
4000	79.1	79.2	79.1	80.3	81.7	82.0	82.6	84.3	84.6
5000	80.1	80.4	79.9	80.9	81.7	81.9	82.6	83.5	83.1
6300	80.9	80.7	80.9	81.3	81.9	81.6	81.8	82.1	81.4
8000	82.7	81.6	81.8	82.2	82.3	81.7	81.1	81.2	80.2
10000	83.2	82.4	81.8	81.3	81.8	81.0	80.7	80.9	79.4
12500	82.8	82.2	81.7	81.9	82.2	80.9	80.0	79.4	77.8
16000	83.7	82.9	82.3	82.4	82.4	80.4	78.8	77.9	76.1
20000	84.5	83.2	82.3	82.2	82.1	79.8	77.8	76.6	74.6
25000	85.0	83.9	83.3	82.6	82.8	80.1	77.1	76.0	74.3
31500	85.5	84.4	83.3	82.9	82.7	80.0	77.3	75.6	73.5
40000	85.5	84.2	83.4	82.8	82.2	79.5	76.3	74.5	72.7
50000	84.5	82.9	83.0	82.5	81.1	78.7	75.9	73.9	72.2
63000	82.4	81.6	81.7	80.8	80.0	77.5	74.4	72.6	71.6
80000	79.8	79.1	80.1	79.7	78.8	76.8	73.9	71.7	70.7
TSPL	95.5	95.0	94.4	94.5	94.8	93.9	93.9	95.2	96.9
SSPL	95.3	94.6	94.2	94.3	94.6	93.8	93.7	94.9	96.4

V_∞ =	198	fps
T_a =	52	°F
RH_a =	26	%
P_a =	14.48	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=198 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3322 CONDITION 3322

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	1.30		1.53	1.30	THRUST,IDL	LB		27.9	11.4	N	124.0	50.5
TEMP	(R)		680.7	729.3	(K)	378.2	405.2	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.066	0.059	KG/M3	1.060	0.945	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		965.5	794.7	M/S	294.3	242.2	W (MODEL)	LB/S		0.9	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.8	79.0	76.5	77.8	76.0	73.1	73.6	75.8	80.3	95.4
.125	76.3	76.6	74.9	74.2	67.0	71.4	73.5	75.0	78.4	92.8
.160	57.7	74.7	70.8	71.0	60.7	71.4	72.0	73.8	77.8	90.3
.200	74.7	71.8	70.7	63.5	62.1	71.0	72.3	73.7	77.0	89.8
.250	57.7	74.6	67.1	66.7	70.6	67.3	70.5	75.2	77.4	89.8
.315	71.5	75.6	70.4	70.7	71.0	68.8	67.4	72.2	80.7	91.0
.400	73.4	76.3	69.7	70.8	71.7	70.6	74.2	70.4	77.5	91.3
.500	72.4	73.9	70.7	71.8	73.5	74.8	76.5	78.4	81.9	93.4
.630	73.7	75.7	73.8	75.1	76.3	76.8	77.8	79.8	83.6	95.4
.800	75.6	75.8	74.9	77.0	78.0	78.0	79.1	82.0	85.7	97.0
1.00	76.5	76.7	76.0	77.5	79.0	79.1	79.6	82.4	86.2	97.7
1.25	76.3	77.7	77.7	78.7	79.3	79.7	81.1	83.5	86.4	98.5
1.60	77.0	77.7	77.9	78.9	79.9	80.3	81.3	83.8	86.7	98.9
2.00	77.1	78.2	78.5	79.4	80.8	81.5	82.4	84.6	86.7	99.6
2.50	78.1	78.5	78.4	79.7	81.0	81.3	82.5	84.7	86.3	99.6
3.15	78.3	78.9	79.2	80.4	81.5	81.7	82.8	84.6	85.5	99.8
4.00	79.1	79.2	79.1	80.3	81.7	82.0	82.6	84.3	84.6	99.8
5.00	80.1	80.4	79.9	80.9	81.7	81.9	82.6	83.5	83.1	99.8
6.30	80.9	80.7	80.9	81.3	81.9	81.6	81.8	82.1	81.4	99.7
8.00	82.7	81.6	81.8	82.2	82.3	81.7	81.1	81.2	80.2	100.1
10.0	83.2	82.4	81.8	81.3	81.8	81.0	80.7	80.9	79.4	99.9
12.5	82.8	82.2	81.7	81.9	82.2	80.9	80.0	79.4	77.8	99.7
16.0	83.7	82.9	82.3	82.4	82.4	80.4	78.8	77.9	76.1	99.9
20.0	84.5	83.2	82.3	82.2	82.1	79.8	77.8	76.6	74.6	99.9
25.0	85.0	83.9	83.3	82.6	82.8	80.1	77.1	76.0	74.3	100.4
31.5	85.5	84.4	83.3	82.9	82.7	80.0	77.3	75.6	73.5	100.6
40.0	85.5	84.2	83.4	82.8	82.2	79.5	76.3	74.5	72.7	100.4
50.0	84.5	82.9	83.0	82.5	81.1	78.7	75.9	73.9	72.2	99.6
63.0	82.4	81.6	81.7	80.8	80.0	77.5	74.4	72.6	71.6	98.2
80.0	79.8	79.1	80.1	79.7	78.8	76.6	73.9	71.7	70.7	96.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.6	95.0	94.4	94.5	94.8	93.9	93.9	95.2	96.9	

OAPWL = 113.0

V_∞ =	198	fps
T_a =	52	°F
RH_a =	26	%
P_a =	14.48	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/03/76		-00 000000	XARF 0	3323 3324

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	61.4	61.2	65.8	66.8	66.3	65.6	65.3	62.7	71.2
125	61.6	64.7	68.2	67.6	67.9	68.5	68.4	69.0	74.9
160	62.4	66.1	68.3	69.5	69.6	68.5	68.7	73.5	78.7
200	66.2	69.2	69.4	72.1	71.3	71.2	74.2	75.1	78.2
250	68.3	71.8	73.3	72.6	74.5	75.5	74.7	80.4	81.2
315	71.7	74.1	75.4	75.2	76.0	75.3	76.4	80.5	87.4
400	75.2	75.5	74.9	75.6	76.0	76.0	79.9	83.0	88.9
500	74.6	74.0	75.4	75.7	78.2	80.1	83.2	86.1	88.3
630	74.6	76.5	77.4	78.9	80.7	82.0	83.4	87.8	92.8
800	77.2	77.4	78.7	81.1	82.7	82.6	84.8	89.8	93.0
1000	78.5	77.9	79.6	80.9	82.6	83.8	85.7	90.0	94.1
1250	78.4	79.7	80.9	82.1	83.6	84.7	87.0	90.9	93.7
1600	78.3	79.2	80.6	82.1	84.0	85.2	87.0	90.7	93.3
2000	78.8	80.4	81.2	82.5	84.7	86.0	87.9	91.2	92.5
2500	79.5	80.1	80.7	82.7	84.9	85.9	87.8	91.0	91.2
3150	79.3	80.6	81.5	83.4	85.3	86.1	88.0	90.5	89.8
4000	79.9	80.5	81.2	83.0	85.1	86.1	87.7	89.9	88.0
5000	80.8	81.7	81.8	83.6	85.4	86.3	87.7	88.8	86.5
6300	80.8	81.4	82.2	83.6	85.1	85.6	86.6	87.1	84.7
8000	82.1	81.9	82.5	83.8	85.2	85.1	85.8	86.0	82.5
10000	82.0	82.5	82.4	83.2	84.6	84.3	84.9	84.9	81.0
12500	82.1	82.2	82.6	83.7	85.1	84.2	84.0	83.2	79.4
16000	82.8	82.9	83.2	84.1	85.2	83.6	82.5	81.5	77.8
20000	83.5	83.3	83.0	83.7	84.6	82.6	81.3	79.8	75.7
25000	84.0	83.8	84.3	84.0	85.1	82.6	80.1	79.3	75.1
31500	84.3	84.4	83.8	84.5	85.0	82.5	79.7	78.3	74.1
40000	84.1	84.0	83.8	83.9	84.2	81.6	78.5	77.1	73.8
50000	83.6	82.7	83.1	83.7	83.2	80.7	78.0	76.2	72.8
63000	81.5	81.6	81.9	81.9	81.8	79.5	76.8	75.3	71.6
80000	80.4	79.7	80.0	80.5	80.7	78.7	75.8	74.0	70.0
TSPL	94.9	95.2	95.6	96.5	97.8	97.7	98.7	101.2	102.9
SSPL	94.9	95.0	95.4	96.4	97.7	97.6	98.6	101.1	102.5

V_∞ =	97	fps
T_a =	53	°F
RH_a =	27	%
P_a =	14.72	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3323 3323

* DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	95.4	95.4	95.6	96.4	97.5	97.2	98.0	100.4	102.1
SSPL	95.3	95.3	95.5	96.3	97.4	97.1	97.9	100.2	101.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	95.6	95.5	95.6	96.3	97.2	96.8	97.5	99.9	101.5
SSPL	95.5	95.4	95.4	96.1	97.1	96.7	97.4	99.7	101.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS (...R
W631 315 05/03/76 -00 000000 XARF 0 3323 ...

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	62.1	61.7	65.9	66.5	65.6	64.7	64.2	61.2	65.5
125	62.3	65.2	68.3	67.3	67.3	67.6	67.2	67.0	70.7
160	63.1	66.6	68.4	69.3	69.0	67.6	67.2	70.8	75.3
200	66.8	69.6	69.5	71.8	70.7	70.2	72.7	73.3	75.4
250	69.0	72.3	73.3	72.4	73.9	74.6	73.3	77.8	80.0
315	72.4	74.5	75.4	74.9	75.4	74.4	74.9	77.8	83.1
400	75.8	75.8	74.9	75.3	75.4	75.0	78.2	80.6	85.0
500	75.2	74.3	75.5	75.5	77.7	79.1	81.6	84.1	86.2
630	75.2	76.9	77.5	78.7	80.2	81.1	81.9	85.2	89.5
800	77.9	77.8	78.8	80.9	82.1	81.7	83.2	87.3	90.6
1000	79.2	78.3	79.7	80.7	82.1	82.9	84.2	87.5	91.2
1250	79.1	80.1	81.0	81.9	83.1	83.8	85.5	88.6	91.4
1600	79.0	79.6	80.7	81.9	83.5	84.3	85.5	88.5	91.1
2000	79.5	80.8	81.3	82.3	84.2	85.1	86.4	89.2	90.9
2500	80.2	80.5	80.8	82.6	84.4	85.0	86.4	89.1	90.1
3150	80.0	80.9	81.5	83.2	84.7	85.1	86.5	88.7	88.9
4000	80.5	80.8	81.2	82.8	84.5	85.1	86.3	88.3	87.7
5000	81.4	82.0	81.8	83.4	84.8	85.3	86.3	87.4	86.3
6300	81.5	81.8	82.3	83.4	84.5	84.7	85.3	85.9	84.5
8000	82.8	82.3	82.6	83.6	84.7	84.2	84.6	85.0	82.8
10000	82.7	82.8	82.4	83.0	84.0	83.4	83.7	83.9	81.4
12500	82.7	82.5	82.6	83.4	84.5	83.3	82.9	82.3	79.7
16000	83.5	83.2	83.2	83.9	84.6	82.8	81.5	80.7	78.0
20000	84.1	83.6	83.0	83.4	84.0	81.8	80.3	79.1	76.1
25000	84.6	84.1	84.3	83.7	84.4	81.8	79.1	78.4	75.6
31500	84.9	84.7	83.8	84.2	84.3	81.7	78.8	77.5	74.5
40000	84.8	84.4	83.8	83.6	83.6	80.9	77.7	76.3	73.8
50000	84.3	83.0	83.2	83.4	82.5	79.9	77.2	75.5	72.8
63000	82.2	81.9	81.9	81.6	81.1	78.7	75.9	74.5	71.8
80000	81.0	80.1	80.0	80.3	80.1	77.9	75.0	73.3	70.3
TSPL	95.6	95.5	95.6	96.3	97.2	96.8	97.4	99.3	100.8
SSPL	95.5	95.4	95.5	96.2	97.1	96.7	97.2	99.2	100.6

V_∞ =	97	fps
T_a =	53	°F
RH_a =	27	%
P_a =	14.72	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=97 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3323 CONDITION 3323

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.30		1.52	1.30	THRUST,IDL	LB	28.7	11.3	N	127.9	50.1
TEMP	(R)	669.3	753.3	(K)	371.8	418.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.057	KG/M3	1.077	0.914	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	954.2	806.5	M/S	290.8	245.8	W (MODEL)	LB/S	1.0	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.1	61.7	65.9	66.5	65.6	64.7	64.2	61.2	65.5	83.0
.125	62.3	65.2	68.3	67.3	67.3	67.6	67.2	67.0	70.7	85.5
.160	63.1	66.6	68.4	69.3	69.0	67.6	67.2	70.8	75.3	87.2
.200	66.8	69.6	69.5	71.8	70.7	70.2	72.7	73.3	75.4	89.6
.250	69.0	72.3	73.3	72.4	73.9	74.6	73.3	77.8	80.0	92.7
.315	72.4	74.5	75.4	74.9	75.4	74.4	74.9	77.8	83.1	94.3
.400	75.8	75.8	74.9	75.3	75.4	75.0	78.2	80.6	85.0	95.8
.500	75.2	74.3	75.5	75.5	77.7	79.1	81.6	84.1	86.2	97.9
.630	75.2	76.9	77.5	78.7	80.2	81.1	81.9	85.2	89.5	99.8
.800	77.9	77.8	78.8	80.9	82.1	81.7	83.2	87.3	90.6	101.3
1.00	79.2	78.3	79.7	80.7	82.1	82.9	84.2	87.5	91.2	101.8
1.25	79.1	80.1	81.0	81.9	83.1	83.8	85.5	88.6	91.4	102.7
1.60	79.0	79.6	80.7	81.9	83.5	84.3	85.5	88.5	91.1	102.7
2.00	79.5	80.8	81.3	82.3	84.2	85.1	86.4	89.2	90.9	103.3
2.50	80.2	80.5	80.8	82.6	84.4	85.0	86.4	89.1	90.1	103.2
3.15	80.0	80.9	81.5	83.2	84.7	85.1	86.5	88.7	88.9	103.1
4.00	80.5	80.8	81.2	82.8	84.5	85.1	86.3	88.3	87.7	102.8
5.00	81.4	82.0	81.8	83.4	84.8	85.3	86.3	87.4	86.3	102.8
6.30	81.5	81.8	82.3	83.4	84.5	84.7	85.3	85.9	84.5	102.2
8.00	82.8	82.3	82.6	83.6	84.7	84.2	84.6	85.0	82.8	102.1
10.0	82.7	82.8	82.4	83.0	84.0	83.4	83.7	83.9	81.4	101.5
12.5	82.7	82.5	82.6	83.4	84.5	83.3	82.9	82.3	79.7	101.3
16.0	83.5	83.2	83.2	83.9	84.6	82.8	81.5	80.7	78.0	101.4
20.0	84.1	83.6	83.0	83.4	84.0	81.8	80.3	79.1	76.1	100.9
25.0	84.6	84.1	84.3	83.7	84.4	81.8	79.1	78.4	75.6	101.3
31.5	84.9	84.7	83.8	84.2	84.3	81.7	78.8	77.5	74.5	101.4
40.0	84.8	84.4	83.8	83.6	83.6	80.9	77.7	76.3	73.8	101.0
50.0	84.3	83.0	83.2	83.4	82.5	79.9	77.2	75.5	72.8	100.2
63.0	82.2	81.9	81.9	81.6	81.1	78.7	75.9	74.5	71.8	98.7
80.0	81.0	80.1	80.0	80.3	80.1	77.9	75.0	73.3	70.3	97.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.6	95.5	95.6	96.3	97.2	96.8	97.4	99.3	100.8	

OAPWL = 115.3

V_∞ =	97	fps
T_a =	53	°F
RH_a =	27	%
P_a =	14.72	psia

DECK LD DATE ENG MOD ENG ND STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3325 3325

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.9	73.2	89.9	91.7	89.9	87.5	97.5	92.9	97.6
125	84.5	85.4	88.4	77.6	82.0	87.6	98.6	93.4	97.0
160	82.5	84.3	84.5	76.0	75.2	87.6	89.8	93.2	95.5
200	83.9	85.1	83.9	74.9	86.0	85.7	87.8	91.0	93.8
250	83.5	77.0	83.1	77.5	81.6	76.6	85.8	77.3	89.4
315	75.6	77.7	72.0	80.3	79.7	78.8	85.0	76.3	100.0
400	76.7	78.5	80.3	79.9	80.5	79.6	87.1	82.0	105.9
500	75.5	77.0	73.6	80.8	83.0	84.9	88.0	91.4	98.1
630	78.5	81.0	79.9	83.6	85.4	87.0	85.5	93.6	98.0
800	81.5	82.7	82.7	86.3	88.7	89.2	89.4	96.4	100.4
1000	81.9	84.1	84.0	87.3	89.2	89.4	90.7	97.3	100.2
1250	82.0	84.5	85.2	87.4	89.0	90.6	93.5	98.7	100.5
1600	83.9	85.3	86.1	88.0	89.9	91.3	94.4	99.3	100.3
2000	84.6	86.3	87.2	89.1	91.3	93.0	96.4	100.3	99.7
2500	86.0	87.1	87.6	89.7	91.8	93.7	97.3	100.7	98.8
3150	86.5	88.0	88.5	91.0	92.9	95.1	98.6	100.8	98.3
4000	87.3	88.4	89.2	91.2	94.0	96.3	99.3	101.1	97.8
5000	89.2	90.2	90.5	92.8	95.0	97.6	100.3	101.0	97.8
6300	90.0	90.6	91.4	93.6	95.7	98.2	100.4	100.6	97.9
8000	92.5	92.2	92.9	94.5	97.1	99.0	100.7	101.3	98.2
10000	97.3	96.4	96.0	96.7	98.2	99.7	100.9	101.9	98.8
12500	105.6	102.6	99.5	99.3	99.8	100.6	101.3	101.7	99.0
16000	110.1	107.8	103.5	100.9	100.6	100.8	101.2	101.1	98.5
20000	109.6	109.2	106.9	103.9	101.8	101.1	100.9	100.1	97.1
25000	107.7	108.6	108.0	107.1	105.7	102.9	101.4	100.8	96.8
31500	107.1	106.8	107.2	107.8	108.1	105.6	103.0	101.0	97.2
40000	107.1	106.9	106.4	107.1	108.7	107.5	104.1	101.6	97.9
50000	106.3	106.3	106.5	107.2	108.1	108.0	105.5	102.4	98.2
63000	105.6	106.0	106.4	106.6	107.3	107.2	104.9	102.7	98.6
80000	105.3	105.5	105.9	106.3	106.7	106.0	104.2	102.2	98.6
TSPL	117.1	116.6	115.8	115.7	116.1	115.5	114.6	114.3	113.7
SSPL	117.1	116.6	115.8	115.6	116.1	115.4	114.3	114.1	112.3

V_∞ =	333	fps
T_a =	46	°F
RH_a =	34	%
P_a =	13.88	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3325 3325

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	119.0	117.8	116.4	115.5	115.3	114.0	112.6	112.5	113.5
SSPL	119.0	117.8	116.3	115.5	115.3	114.0	112.3	112.3	112.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	119.5	118.0	116.1	114.9	114.2	112.6	110.8	110.5	111.3
SSPL	119.5	118.0	116.1	114.8	114.2	112.6	110.6	110.4	109.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/03/76 -00 000000 XARF 0 3325 3325

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.3	75.1	91.8	90.6	87.9	84.5	91.5	92.2	89.7
125	86.9	87.0	86.7	76.1	80.3	83.9	92.6	93.3	90.0
160	84.9	85.6	83.0	73.9	73.6	83.8	85.8	87.3	90.1
200	86.3	86.2	82.1	74.6	84.3	82.9	83.5	85.2	87.9
250	85.9	78.3	82.6	76.6	79.6	73.8	80.3	78.4	74.8
315	78.0	78.4	72.9	80.0	77.8	75.8	80.4	76.4	75.2
400	79.1	79.9	80.4	78.9	78.5	76.6	81.9	80.0	81.1
500	77.9	77.9	74.5	80.7	81.1	81.9	83.5	85.2	88.8
630	80.9	82.2	80.4	83.2	83.5	84.2	81.9	84.4	90.9
800	83.8	83.9	83.3	86.0	86.8	86.5	85.4	88.0	93.7
1000	84.3	85.4	84.5	86.9	87.4	86.6	86.4	89.4	94.4
1250	84.4	85.9	85.6	86.7	87.1	87.7	88.9	91.8	95.5
1600	86.3	86.7	86.5	87.4	88.0	88.3	89.7	92.7	96.1
2000	87.0	87.6	87.6	88.5	89.4	90.0	91.7	94.4	96.8
2500	88.3	88.3	88.0	89.1	90.0	90.6	92.6	95.2	97.1
3150	88.9	89.3	89.0	90.4	91.1	92.0	94.0	96.1	97.0
4000	89.1	89.7	89.6	90.7	92.2	93.3	94.9	96.6	97.1
5000	91.6	91.5	90.9	92.3	93.2	94.5	96.1	97.2	97.0
6300	92.4	91.9	91.9	93.0	93.8	95.2	96.3	96.9	96.7
8000	94.8	93.4	93.2	94.0	95.3	96.1	96.8	97.4	97.4
10000	99.7	97.4	96.1	95.9	96.3	96.8	97.0	97.7	98.0
12500	107.9	103.2	99.1	98.3	97.9	97.7	97.5	97.7	97.8
16000	112.5	108.3	102.6	99.6	98.7	98.0	97.6	97.5	97.2
20000	112.0	110.1	106.2	102.3	99.8	98.4	97.5	96.8	96.1
25000	110.0	109.7	107.8	105.8	103.6	100.4	98.2	97.4	96.6
31500	109.5	108.0	107.3	106.9	106.1	103.2	100.2	98.3	96.8
40000	109.5	108.0	106.5	106.4	106.8	105.1	101.7	99.2	97.4
50000	108.7	107.5	106.7	106.4	106.2	105.4	102.9	100.4	98.1
63000	107.9	107.2	106.4	105.6	105.3	104.6	102.2	100.2	98.4
80000	107.7	106.7	106.0	105.4	104.8	103.4	101.3	99.5	98.1
TSPL	119.5	117.7	115.7	114.7	114.2	112.9	111.2	110.6	110.4
SSPL	119.5	117.6	115.7	114.7	114.1	112.8	111.1	110.4	110.3

V_∞ =	333	fps
T_a =	46	°F
RH_a =	34	%
P_a =	13.88	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=333 TEST DATE 05/03/76 SCALE RATIO 0.0/1 RUN NUMBER 3325 CONDITION 3325

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	3.21		1.53	3.21	THRUST,IDL	LB	26.3	68.6	N		117.1	305.0
TEMP	(R)		707.0	700.0	(K)	392.8	388.9	THRUST,MEA	LB		0.0	N		0.0	
RHO	LB/FT3		0.064	0.079	KG/M3	1.020	1.267	AREA (MOD)	SQFT	0.02	0.01	SQM		0.001	0.001
VEL	FPS		985.5	1544.0	M/S	300.4	470.6	W (MODEL)	LB/S	0.9	1.4	KG/S		0.4	0.6

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.3	75.1	91.8	90.6	87.9	84.5	91.5	92.2	89.7	108.0
.125	86.9	87.0	86.7	76.1	80.3	83.9	92.6	93.3	90.0	106.5
.160	84.9	85.6	83.0	73.9	73.6	83.8	85.8	87.3	90.1	102.6
.200	86.3	86.2	82.1	74.6	84.3	82.9	83.5	85.2	87.9	102.4
.250	85.9	78.3	82.6	76.6	79.6	73.8	80.3	78.4	74.8	98.5
.315	78.0	78.4	72.9	80.0	77.8	75.8	80.4	76.4	75.2	96.2
.400	79.1	79.9	80.4	78.9	78.5	76.6	81.9	80.0	81.1	98.0
.500	77.9	77.9	74.5	80.7	81.1	81.9	83.5	85.2	88.8	100.2
.630	80.9	82.2	80.4	83.2	83.5	84.2	81.9	84.4	90.9	101.9
.800	83.8	83.9	83.3	86.0	86.8	86.5	85.4	88.0	93.7	104.8
1.00	84.3	85.4	84.5	86.9	87.4	86.6	86.4	89.4	94.4	105.7
1.25	84.4	85.9	85.6	86.7	87.1	87.7	88.9	91.8	95.5	106.8
1.60	86.3	86.7	86.5	87.4	88.0	88.3	89.7	92.7	96.1	107.6
2.00	87.0	87.6	87.6	88.5	89.4	90.0	91.7	94.4	96.8	108.9
2.50	88.3	88.3	88.0	89.1	90.0	90.6	92.6	95.2	97.1	109.6
3.15	88.9	89.3	89.0	90.4	91.1	92.0	94.0	96.1	97.0	110.5
4.00	89.7	89.7	89.6	90.7	92.2	93.3	94.9	96.6	97.1	111.2
5.00	91.6	91.5	90.9	92.3	93.2	94.5	96.1	97.2	97.0	112.3
6.30	92.4	91.9	91.9	93.0	93.8	95.2	96.3	96.9	96.7	112.6
8.00	94.8	93.4	93.2	94.0	95.3	96.1	96.8	97.4	97.4	113.6
10.0	99.7	97.4	96.1	95.9	96.3	96.8	97.0	97.7	98.0	115.4
12.5	107.9	103.2	99.1	98.3	97.9	97.7	97.5	97.7	97.8	119.2
16.0	112.5	106.3	102.6	99.6	98.7	98.0	97.6	97.5	97.2	122.9
20.0	112.6	110.1	106.2	102.3	99.8	98.4	97.5	96.8	96.1	124.0
25.0	110.6	109.7	107.8	105.8	103.6	100.4	98.2	97.4	96.6	124.3
31.5	109.5	108.0	107.3	106.9	106.1	103.2	100.2	98.3	96.8	124.3
40.0	109.5	108.0	106.5	106.4	106.8	105.1	101.7	99.2	97.4	124.4
50.0	108.7	107.5	106.7	106.4	106.2	105.4	102.9	100.4	98.1	124.3
63.0	107.9	107.2	106.4	105.6	105.3	104.6	102.2	100.2	98.4	123.7
80.0	107.7	106.7	106.0	105.4	104.8	103.4	101.3	99.5	98.1	123.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	115.5	112.7	115.7	114.7	114.2	112.8	111.2	110.4	110.4	

OAPWL = 133.5

V =	333	fps
T_a =	46	°F
RH_a =	34	%
P_a =	13.88	psia

DECK LD DATE . ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3326 3326

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.8	78.9	89.7	91.7	90.3	87.2	97.4	93.0	97.7
125	84.1	85.7	88.0	89.0	78.8	87.4	97.2	93.3	96.8
160	82.4	84.3	84.1	85.0	86.5	87.4	89.3	92.9	95.5
200	83.5	85.3	83.4	68.8	85.8	85.4	87.1	91.3	93.6
250	83.0	73.7	82.3	72.4	77.5	84.3	85.1	90.1	89.0
315	81.0	72.1	82.0	76.7	75.4	82.6	83.6	88.2	99.0
400	70.5	74.7	78.9	75.6	76.9	70.5	84.6	87.3	105.9
500	65.4	74.3	79.5	76.9	79.7	80.3	85.2	86.1	95.4
630	74.4	77.9	71.6	80.2	81.8	83.3	86.9	89.0	93.4
800	77.2	79.5	77.9	82.3	84.9	85.6	80.9	91.8	95.9
1000	77.7	80.4	79.7	83.6	85.5	85.8	84.8	92.9	95.7
1250	78.4	81.1	81.3	83.7	85.4	87.0	88.7	94.1	96.4
1600	80.0	81.8	82.4	84.4	86.3	87.7	90.1	94.9	96.3
2000	81.4	82.9	83.6	85.8	87.8	89.4	92.0	96.0	96.1
2500	82.4	83.8	83.8	86.1	88.1	90.0	92.7	96.3	95.1
3150	82.9	84.6	85.2	87.5	89.3	91.0	93.7	96.3	94.3
4000	83.6	85.1	85.6	87.8	90.3	92.0	94.4	96.3	93.4
5000	85.8	86.8	87.1	89.4	91.3	93.1	95.3	96.1	93.1
6300	86.3	87.1	88.0	90.1	91.8	93.8	95.5	95.5	92.8
8000	87.6	87.9	88.8	90.5	92.9	94.4	95.6	95.9	92.7
10000	88.2	88.8	89.2	90.9	93.1	94.6	95.7	96.1	92.4
12500	90.1	89.7	90.4	91.9	93.9	95.1	96.1	95.9	92.7
16000	94.5	93.1	92.2	93.0	94.9	96.0	96.4	96.1	92.9
20000	99.1	96.9	94.0	93.7	95.1	95.9	95.8	95.3	92.1
25000	102.7	100.9	97.3	95.9	96.2	96.0	95.5	95.6	92.1
31500	103.6	102.8	100.7	98.3	97.3	96.4	95.7	94.8	91.7
40000	103.0	102.7	101.9	100.7	99.3	97.4	95.6	94.3	91.5
50000	101.6	101.6	101.6	102.1	101.0	99.0	96.6	94.5	91.3
63000	100.4	100.7	101.2	101.5	101.7	100.6	97.3	95.2	91.8
80000	100.3	100.2	100.6	100.9	101.5	100.9	98.2	95.7	92.7
TSPL	110.6	110.0	109.2	109.1	109.1	108.8	108.9	109.2	110.8
SSPL	110.5	109.9	109.1	108.9	109.0	108.7	108.2	108.7	107.5

V_∞ =	334	fps
T_a =	46	°F
RH_a =	36	%
P_a =	13.87	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/03/76		-00	000000	XARF	0	3326	3326

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	112.4	111.2	109.8	109.0	108.3	107.4	107.0	107.4	110.6
SSPL	112.4	111.1	109.7	108.8	108.2	107.2	106.2	106.9	107.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	112.9	111.3	109.5	108.3	107.3	106.0	105.2	105.4	108.4
SSPL	112.9	111.3	109.4	108.1	107.1	105.8	104.4	104.9	105.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3326 3326

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.2	80.6	91.1	90.7	88.3	84.2	91.4	92.2	89.8
125	86.5	87.2	88.5	86.6	76.8	83.5	91.6	92.3	89.9
160	84.8	85.6	84.2	84.2	84.6	84.5	85.1	86.8	89.8
200	85.9	86.4	80.4	68.7	84.2	82.7	82.8	84.9	88.2
250	85.4	75.2	81.3	71.1	75.8	81.0	81.2	83.4	86.6
315	83.4	73.7	82.0	74.9	73.6	79.3	79.7	80.8	86.2
400	72.9	76.6	78.7	74.5	74.9	67.5	76.9	81.7	86.2
500	67.8	76.6	79.5	76.0	77.8	77.3	80.3	81.4	83.7
630	76.8	78.6	72.6	80.2	80.0	80.3	82.3	83.8	86.0
800	79.5	80.6	78.5	82.0	83.0	83.0	77.9	80.7	89.3
1000	80.1	81.7	80.4	83.2	83.6	83.1	81.0	83.9	90.1
1250	80.8	82.5	81.7	83.1	83.6	84.1	84.4	86.9	91.0
1600	82.4	83.1	82.8	83.8	84.4	84.7	85.6	88.2	91.8
2000	83.8	84.2	84.1	85.2	85.9	86.4	87.5	89.9	92.6
2500	84.8	85.0	84.2	85.6	86.2	87.0	88.3	90.6	92.7
3150	85.3	85.9	85.7	86.9	87.4	88.0	89.3	91.2	92.6
4000	85.9	86.4	86.1	87.3	88.4	89.1	90.1	91.7	92.5
5000	88.1	88.0	87.5	88.8	89.4	90.2	91.2	92.1	92.1
6300	88.7	88.4	88.5	89.5	90.0	90.8	91.6	91.9	91.5
8000	90.0	89.1	89.2	90.0	91.0	91.5	91.7	92.1	91.9
10000	90.6	90.0	89.5	90.3	91.3	91.7	91.9	92.3	92.0
12500	92.5	90.9	90.7	91.3	92.1	92.3	92.4	92.4	91.9
16000	96.8	94.0	92.2	92.3	93.0	93.2	92.8	92.6	92.1
20000	101.5	97.6	93.6	92.8	93.2	93.1	92.3	91.9	91.3
25000	105.0	101.5	96.7	94.7	94.2	93.3	92.1	91.8	91.5
31500	106.0	103.7	100.1	96.9	95.3	93.8	92.4	91.5	90.7
40000	105.4	103.8	101.7	99.4	97.3	94.9	92.6	91.2	90.3
50000	104.0	102.8	101.7	101.0	99.0	96.6	93.8	91.8	90.4
63000	102.8	102.0	101.2	100.5	99.7	98.1	94.8	92.5	91.1
80000	102.6	101.4	100.7	100.0	99.6	98.4	95.6	93.3	91.6
TSPL	113.0	111.0	109.1	108.0	107.2	106.2	105.2	105.1	105.5
SSPL	112.9	111.0	109.0	107.9	107.1	106.0	104.7	104.5	104.9

V_∞ =	334	fps
T_a =	46	°F
RH_a =	36	%
P_a =	13.87	psia

STAND XARF RIG ID VT=334 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3326 CONDITION 3326

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.51	2.51		1.51	2.51	THRUST,IDL	LB	26.1	47.3	N	116.0	210.5
TEMP	(R)	715.8	704.7	(K)	397.7	391.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.073	KG/M3	1.004	1.174	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	976.0	1398.0	M/S	297.5	426.1	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.2	80.6	91.1	90.7	88.3	84.2	91.4	92.2	89.8	107.9
.125	86.5	87.2	88.5	86.6	76.8	83.5	91.6	92.3	89.9	106.5
.160	84.8	85.6	84.2	84.2	84.6	84.5	85.1	86.8	89.8	103.6
.200	85.9	86.4	80.4	68.7	84.2	82.7	82.8	84.9	88.2	102.1
.250	85.4	75.2	81.3	71.1	75.8	81.0	81.2	83.4	86.6	99.2
.315	83.4	73.7	82.0	74.9	73.6	79.3	79.7	80.8	86.2	98.2
.400	72.9	76.6	78.7	74.5	74.9	67.5	76.9	81.7	86.2	96.3
.500	67.8	76.6	79.5	76.0	77.8	77.3	80.3	81.4	83.7	97.0
.630	76.8	78.6	72.6	80.2	80.0	80.3	82.3	83.8	86.0	98.9
.800	79.5	80.6	78.5	82.0	83.0	83.0	77.9	80.7	89.3	100.3
1.00	80.1	81.7	80.4	83.2	83.6	83.1	81.0	83.9	90.1	101.4
1.25	80.8	82.5	81.7	83.1	83.6	84.1	84.4	86.9	91.0	102.6
1.60	82.4	83.1	82.8	83.8	84.4	84.7	85.6	88.2	91.8	103.6
2.00	83.8	84.2	84.1	85.2	85.9	86.4	87.5	89.9	92.6	105.0
2.50	84.8	85.0	84.2	85.6	86.2	87.0	88.3	90.6	92.7	105.5
3.15	85.3	85.9	85.7	86.9	87.4	88.0	89.3	91.2	92.6	106.4
4.00	85.9	86.4	86.1	87.3	88.4	89.1	90.1	91.7	92.5	107.0
5.00	86.1	88.0	87.5	88.8	89.4	90.2	91.2	92.1	92.1	108.0
6.30	88.7	88.4	88.5	89.5	90.0	90.8	91.6	91.9	91.5	108.4
8.00	90.0	89.1	89.2	90.0	91.0	91.5	91.7	92.1	91.9	109.0
10.0	90.6	90.0	89.5	90.3	91.3	91.7	91.9	92.3	92.0	109.3
12.5	92.5	90.9	90.7	91.3	92.1	92.3	92.4	92.4	91.9	110.1
16.0	96.8	94.0	92.2	92.3	93.0	93.2	92.8	92.6	92.1	111.6
20.0	101.5	97.6	93.6	92.8	93.2	93.1	92.3	91.9	91.3	113.5
25.0	105.0	101.5	96.7	94.7	94.2	93.3	92.1	91.8	91.5	116.3
31.5	106.0	103.7	100.1	96.9	95.3	93.8	92.4	91.5	90.7	118.0
40.0	105.4	103.8	101.7	99.4	97.3	94.9	92.6	91.2	90.3	118.6
50.0	104.0	102.8	101.7	101.0	99.0	96.6	93.8	91.8	90.4	118.5
63.0	102.8	102.0	101.2	100.5	99.7	98.1	94.8	92.5	91.1	118.2
80.0	102.6	101.4	100.7	100.0	99.6	98.4	95.6	93.3	91.6	117.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

V_∞ =	334	fps
T_a =	46	°F
RH_a =	36	%
P_a =	13.87	psia

OAPWL = 126.9

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3327 3327

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.2	87.6	91.2	80.3	90.2	81.3	97.9	94.0	98.9
125	85.0	84.0	72.9	89.0	76.4	81.5	98.6	94.2	98.2
160	83.0	81.8	84.4	84.8	86.3	74.9	90.2	94.0	96.5
200	83.4	74.4	83.4	84.5	85.8	77.0	88.0	91.8	94.4
250	82.6	73.7	81.0	70.6	72.7	77.3	86.7	74.3	89.8
315	81.0	76.9	80.5	74.0	68.5	78.8	84.6	88.7	98.9
400	72.9	79.4	78.8	71.9	72.5	78.1	84.2	87.4	105.4
500	78.7	78.7	78.9	73.9	76.3	78.7	83.6	77.1	94.0
630	68.5	79.1	78.7	76.5	77.5	80.2	84.0	82.7	88.6
800	74.3	79.0	69.9	78.2	80.4	81.7	84.5	86.5	90.6
1000	76.7	79.3	74.2	80.0	81.5	82.0	84.9	87.6	90.1
1250	73.6	78.2	76.4	79.4	80.9	82.5	79.6	88.4	90.5
1600	76.2	78.5	78.2	80.0	81.5	83.0	82.9	88.9	90.5
2000	77.8	79.6	79.2	81.0	82.9	84.4	85.4	89.4	89.9
2500	77.6	79.5	79.5	81.3	83.2	84.4	86.0	89.5	88.8
3150	77.1	79.7	80.5	82.6	84.0	85.5	86.8	89.2	88.0
4000	77.4	80.1	80.7	82.4	84.8	86.1	87.1	88.9	86.8
5000	80.5	82.2	82.3	84.1	85.8	87.0	88.0	88.6	86.1
6300	80.7	81.9	82.8	84.6	86.2	87.1	87.8	87.7	85.4
8000	81.7	82.3	83.3	85.1	86.9	87.6	88.0	87.7	84.6
10000	82.5	83.3	84.0	85.2	87.1	87.6	87.6	87.9	84.4
12500	83.7	83.7	84.7	85.9	87.6	88.0	88.0	87.3	84.0
16000	84.2	84.5	84.8	86.0	88.1	88.4	88.4	87.0	83.9
20000	84.2	84.2	84.5	85.9	87.8	88.0	87.6	86.4	83.1
25000	84.4	84.8	85.2	86.4	88.3	87.9	87.3	86.7	83.1
31500	84.9	84.8	85.5	86.3	88.1	87.9	87.1	85.8	82.9
40000	85.0	84.9	85.7	86.5	87.8	87.6	86.5	85.0	82.6
50000	84.7	84.7	85.6	86.6	87.4	87.3	86.2	84.8	82.4
63000	84.2	84.3	85.7	86.2	87.1	86.8	85.0	84.7	82.2
80000	84.0	83.2	85.5	86.0	86.8	86.6	82.2	84.2	82.1
TSPL	97.1	97.1	98.3	98.8	100.2	100.1	104.1	103.5	109.0
SSPL	95.4	96.0	96.6	97.8	99.4	99.8	99.9	100.8	101.3

V_∞ =	333	fps
T_a =	46	°F
RH_a =	39	%
P_a =	13.88	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/03/76		-00	000000	XARF	0	3327	3327

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	99.0	98.3	98.8	98.6	99.4	98.6	102.2	101.7	108.7
SSPL	97.2	97.2	97.1	97.7	98.5	98.4	98.0	99.0	101.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	99.5	98.5	98.5	98.0	98.4	97.2	100.4	99.8	106.5
SSPL	97.8	97.4	96.9	97.0	97.5	97.0	96.2	97.1	98.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3327 3327

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.6	89.1	89.5	79.7	88.3	78.5	90.0	93.5	90.8
125	87.4	83.8	74.9	87.7	74.4	77.5	90.9	94.1	90.9
160	85.4	83.1	84.7	84.1	84.2	72.3	82.0	89.0	90.9
200	85.8	75.9	84.4	83.8	83.7	74.4	81.0	86.4	88.7
250	85.0	75.1	79.8	68.9	71.0	73.8	81.7	77.4	72.0
315	83.4	78.2	79.7	71.5	66.7	75.0	79.5	82.1	86.6
400	75.3	80.9	77.5	70.2	70.7	74.6	79.0	80.8	86.2
500	81.1	79.9	78.0	72.7	74.5	75.6	79.3	76.2	75.2
630	70.8	80.9	78.3	75.3	75.6	77.1	79.6	79.5	79.8
800	76.7	79.5	70.5	78.3	78.6	78.7	80.1	81.4	83.5
1000	79.1	80.0	74.8	79.7	79.6	79.1	80.5	82.1	84.4
1250	76.0	79.5	76.7	78.9	79.1	79.9	76.4	78.9	85.5
1600	78.6	79.8	78.5	79.3	79.6	80.2	79.0	81.3	85.8
2000	80.2	80.8	79.5	80.3	81.0	81.5	81.4	83.2	86.1
2500	79.9	80.8	79.8	80.7	81.4	81.5	81.9	83.7	85.9
3150	79.5	81.1	80.9	81.9	82.1	82.6	82.8	84.0	85.6
4000	79.7	81.5	81.0	81.9	83.0	83.2	83.2	84.2	85.1
5000	82.8	83.5	82.6	83.5	83.9	84.1	84.2	84.6	84.7
6300	83.1	83.2	83.2	83.9	84.3	84.3	84.1	84.1	83.8
8000	84.1	83.6	83.7	84.5	85.0	84.9	84.4	84.2	83.7
10000	84.8	84.6	84.3	84.5	85.2	84.9	84.1	84.0	83.8
12500	86.1	85.0	85.0	85.2	85.7	85.3	84.6	84.1	83.3
16000	86.6	85.7	85.0	85.4	86.2	85.7	85.0	84.1	83.0
20000	86.6	85.4	84.8	85.2	85.9	85.3	84.3	83.4	82.3
25000	86.8	86.0	85.4	85.7	86.4	85.2	83.9	83.3	82.6
31500	87.2	86.0	85.7	85.6	86.2	85.3	83.9	82.8	81.8
40000	87.4	86.2	85.9	85.7	85.9	84.9	83.4	82.1	81.1
50000	87.1	86.0	85.9	85.8	85.5	84.6	83.1	81.8	80.8
63000	86.6	85.6	85.9	85.3	85.1	84.2	82.0	81.0	80.7
80000	86.4	84.6	85.8	85.1	84.8	84.1	79.7	78.8	80.4
TSPL	99.5	98.4	98.2	98.0	98.3	97.3	98.5	100.3	100.2
SSPL	97.8	97.3	96.8	97.1	97.5	97.1	96.3	96.3	97.2

V_∞ =	333	fps
T_a =	46	°F
RH_a =	39	%
P_a =	13.88	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=333 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3327 CONDITION 3327

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	1.80		1.53	1.80	THRUST,IDL	LB		26.7	27.6	N	118.8	122.9
TEMP	(R)		714.3	701.0	(K)	396.8	389.4	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.063	0.067	KG/M3	1.009	1.077	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		988.4	1141.0	M/S	301.3	347.8	W (MODEL)	LB/S		0.9	0.8	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.6	89.1	89.5	79.7	88.3	78.5	90.0	93.5	90.8	107.3
.125	87.4	83.8	74.9	87.7	74.4	77.5	90.9	94.1	90.9	106.0
.160	85.4	83.1	84.7	84.1	84.2	72.3	82.0	89.0	90.9	103.2
.200	85.8	75.9	84.4	83.8	83.7	74.4	81.0	86.4	88.7	101.8
.250	85.0	75.1	79.8	68.9	71.0	73.8	81.7	77.4	72.0	96.6
.315	83.4	76.2	79.7	71.5	66.7	75.0	79.5	82.1	86.6	97.7
.400	75.3	80.9	77.5	70.2	70.7	74.6	79.0	80.8	86.2	96.8
.500	81.1	79.9	78.0	72.7	74.5	75.6	79.3	76.2	75.2	95.9
.630	70.8	80.9	78.3	75.3	75.6	77.1	79.6	79.5	79.8	96.5
.800	76.7	79.5	70.5	78.3	78.6	78.7	80.1	81.4	83.5	97.3
1.00	79.1	80.0	74.8	79.7	79.6	79.1	80.5	82.1	84.4	98.2
1.25	76.0	79.5	76.7	78.9	79.1	79.9	76.4	78.9	85.5	97.4
1.60	78.6	79.8	78.5	79.3	79.6	80.2	79.0	81.3	85.8	98.4
2.00	80.2	80.8	79.5	80.3	81.0	81.5	81.4	83.2	86.1	99.7
2.50	79.9	80.8	79.8	80.7	81.4	81.5	81.9	83.7	85.9	99.9
3.15	79.5	81.1	80.9	81.9	82.1	82.6	82.8	84.0	85.6	100.5
4.00	79.7	81.5	81.0	81.9	83.0	83.2	83.2	84.2	85.1	100.8
5.00	82.8	83.5	82.6	83.5	83.9	84.1	84.2	84.6	84.7	102.0
6.30	83.1	83.2	83.2	83.9	84.3	84.3	84.1	84.1	83.8	102.1
8.00	84.1	83.6	83.7	84.5	85.0	84.9	84.4	84.2	83.7	102.6
10.0	84.8	84.6	84.3	84.5	85.2	84.9	84.1	84.0	83.8	102.9
12.5	86.1	85.0	85.0	85.2	85.7	85.3	84.6	84.1	83.3	103.4
16.0	86.6	85.7	85.0	85.4	86.2	85.7	85.0	84.1	83.0	103.7
20.0	86.6	85.4	84.8	85.2	85.9	85.3	84.3	83.4	82.3	103.4
25.0	86.8	86.0	85.4	85.7	86.4	85.2	83.9	83.3	82.6	103.7
31.5	87.2	86.0	85.7	85.6	86.2	85.3	83.9	82.8	81.8	103.7
40.0	87.4	86.2	85.9	85.7	85.9	84.9	83.4	82.1	81.1	103.6
50.0	87.1	86.0	85.9	85.8	85.5	84.6	83.1	81.8	80.8	103.5
63.0	86.6	85.6	85.9	85.3	85.1	84.2	82.0	81.0	80.7	103.0
80.0	86.4	84.6	85.8	85.1	84.8	84.1	79.7	78.8	80.4	102.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.5	98.4	98.2	98.0	98.3	97.3	98.5	100.3	100.2	OAPWL = 116.9

V_∞ = 333 fps

T_a = 46 °F

RH_a = 39 %

P_a = 13.88 psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/03/76		-00 000000	XARF 0	3328 3328

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.8	83.3	91.1	78.5	90.3	88.7	99.2	93.5	98.9
125	84.2	85.6	88.9	88.7	77.7	88.0	99.8	93.1	97.1
160	82.4	78.5	84.4	84.5	86.6	86.4	90.5	92.7	95.7
200	82.9	85.9	83.7	84.1	86.1	85.0	88.7	90.6	93.8
250	81.1	83.5	81.3	83.1	75.3	84.7	87.1	89.9	87.2
315	78.7	70.8	80.0	71.6	70.4	84.4	85.1	87.5	99.8
400	77.9	74.4	77.1	62.5	73.2	82.8	84.8	86.1	106.0
500	77.4	73.1	77.4	70.2	76.0	81.9	83.8	85.9	93.7
630	76.9	74.8	77.5	72.9	75.3	81.0	83.4	85.4	84.4
800	73.6	75.7	78.4	75.3	77.9	81.0	83.3	83.5	87.6
1000	77.5	75.7	72.9	77.8	78.7	80.4	83.6	84.6	87.5
1250	66.8	69.4	72.1	76.6	78.6	80.4	83.7	85.7	88.0
1600	73.1	77.0	75.2	77.5	79.2	80.6	76.0	86.2	88.2
2000	75.4	68.6	77.3	79.0	80.9	82.0	81.2	86.8	87.6
2500	75.6	76.5	77.0	79.3	81.1	82.1	82.2	86.6	86.5
3150	74.2	76.4	78.2	80.2	81.7	82.7	83.0	86.3	85.8
4000	74.1	76.3	78.4	79.9	82.4	83.2	83.1	86.0	84.1
5000	78.9	69.8	80.2	81.9	83.3	83.9	84.0	84.9	82.9
6300	79.1	70.3	80.7	82.1	83.4	83.9	83.4	84.0	81.9
8000	80.8	71.2	81.7	83.0	84.2	84.3	83.8	83.7	80.9
10000	81.4	73.4	82.4	83.1	84.4	84.2	83.8	83.7	80.2
12500	81.8	73.5	82.4	83.6	85.0	84.7	84.0	83.1	80.0
16000	82.8	74.4	82.4	83.6	85.0	84.6	83.9	82.7	79.7
20000	83.0	75.2	82.8	83.7	85.1	84.3	83.2	82.0	78.9
25000	83.3	76.4	83.2	84.1	85.5	84.4	82.7	82.1	78.4
31500	83.6	75.9	83.5	84.2	85.3	84.3	82.7	81.2	79.0
40000	84.2	76.4	83.7	84.4	85.1	84.2	82.4	80.9	79.0
50000	83.7	77.0	83.7	84.7	84.6	83.7	82.0	80.6	79.3
63000	83.0	76.0	83.7	83.8	84.2	83.6	80.1	80.8	79.1
80000	82.8	71.3	83.5	83.6	83.9	83.4	83.9	80.6	78.8
TSPL	96.2	93.0	97.6	97.1	98.3	98.9	104.1	101.9	108.9
SSPL	94.2	88.4	94.7	95.5	96.7	96.8	96.6	97.9	99.0

V_∞ =	334	fps
T_a =	46	°F
RH_a =	43	%
P_a =	13.87	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/03/76		-00	000000	XARF	0	3328	3328

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	98.0	94.2	98.2	97.0	97.5	97.4	102.1	100.1	108.6
SSPL	96.0	89.6	95.2	95.4	95.9	95.4	94.6	96.1	98.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	98.5	94.3	97.9	96.3	96.4	96.0	100.3	98.1	106.4
SSPL	96.0	89.7	94.9	94.7	94.8	94.0	92.9	94.1	96.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3328 3328

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.2	85.0	89.4	77.9	88.6	85.6	93.2	93.5	90.3
125	86.6	87.2	89.3	86.0	75.8	83.9	93.9	93.9	89.7
160	84.8	80.0	84.9	83.8	84.7	83.5	85.7	87.6	89.6
200	85.3	87.0	83.5	83.4	84.2	82.2	84.0	85.6	87.5
250	83.5	84.6	81.5	81.1	73.5	81.1	83.0	84.7	86.1
315	81.1	72.5	79.4	69.5	68.7	80.6	81.6	81.3	85.5
400	80.3	75.6	74.6	61.4	71.7	79.3	80.9	80.1	85.0
500	79.8	74.5	76.4	69.2	74.3	78.7	79.8	80.3	83.4
630	79.3	76.1	76.9	71.7	73.5	77.7	79.3	80.6	81.8
800	76.0	77.3	78.1	74.3	76.1	77.9	79.2	79.4	80.4
1000	79.8	76.4	73.6	77.3	76.8	77.4	79.2	80.2	81.4
1250	69.1	70.9	73.1	76.3	76.8	77.4	79.2	80.7	82.4
1600	75.4	78.3	75.4	76.9	77.4	78.0	73.0	75.6	83.4
2000	77.8	65.3	78.9	78.4	79.0	79.2	77.5	79.4	83.6
2500	77.9	77.8	77.5	78.8	79.2	79.3	78.4	80.1	83.2
3150	76.6	77.8	78.7	79.6	79.8	79.9	79.2	80.5	82.8
4000	76.5	77.8	78.8	79.4	80.5	80.5	79.4	80.5	82.3
5000	81.3	71.4	81.4	81.2	81.4	81.2	80.4	80.6	81.1
6300	81.5	71.9	81.9	81.4	81.6	81.2	80.0	79.8	80.2
8000	83.2	72.8	82.9	82.3	82.3	81.6	80.4	80.0	79.8
10000	83.8	74.9	83.3	82.3	82.5	81.5	80.4	80.1	79.7
12500	84.2	75.0	83.4	82.8	83.1	82.0	80.7	79.8	79.0
16000	85.2	75.8	83.3	82.8	83.1	82.0	80.7	79.6	78.7
20000	85.4	76.6	83.6	82.9	83.2	81.7	80.1	78.9	77.9
25000	85.7	77.7	84.0	83.4	83.6	81.9	79.7	78.6	78.0
31500	86.0	77.3	84.3	83.4	83.4	81.7	79.7	78.2	77.2
40000	86.5	77.8	84.5	83.6	83.2	81.7	79.4	77.8	77.0
50000	86.1	78.4	84.5	83.7	82.6	81.1	79.0	77.4	76.8
63000	85.4	77.5	84.4	82.9	82.3	81.1	77.5	76.3	77.0
80000	85.1	72.9	84.6	82.6	81.9	80.7	80.5	78.8	76.6
TSPL	98.5	94.4	97.8	96.1	96.4	95.9	98.8	99.1	98.6
SSPL	96.6	89.7	95.5	94.7	94.8	94.1	93.1	93.1	94.4

V_∞ =	334	fps
T_a =	46	°F
RH_a =	43	%
P_a =	13.87	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=334 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3328 CONDITION 3328

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.53		1.53	1.53	THRUST,IDL	LB	27.0	19.1	N	119.9	84.7
TEMP	(R)	707.0	709.0	(K)	392.8	393.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.064	KG/M3	1.020	1.018	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	986.2	989.4	M/S	300.6	301.6	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.2	85.0	89.4	77.9	88.6	85.6	93.2	93.5	90.3	107.7
.125	86.6	87.2	89.3	86.0	75.8	83.9	93.9	93.9	89.7	107.6
.160	84.8	80.0	84.9	83.8	84.7	83.5	85.7	87.6	89.6	103.2
.200	85.3	87.0	83.5	83.4	84.2	82.2	84.0	85.6	87.5	103.0
.250	83.5	84.6	81.5	81.1	73.5	81.1	83.0	84.7	86.1	100.8
.315	81.1	72.5	79.4	69.5	68.7	80.6	81.6	81.3	85.5	97.5
.400	80.3	75.6	74.6	61.4	71.7	79.3	80.9	80.1	85.0	96.4
.500	79.8	74.5	76.4	69.2	74.3	78.7	79.8	80.3	83.4	96.1
.630	79.3	76.1	76.9	71.7	73.5	77.7	79.3	80.6	81.8	95.9
.800	76.0	77.3	78.1	74.3	76.1	77.9	79.2	79.4	80.4	96.0
1.00	79.8	76.4	73.6	77.3	76.8	77.4	79.2	80.2	81.4	96.2
1.25	69.1	70.9	73.1	76.3	76.8	77.4	79.2	80.7	82.4	95.4
1.60	75.4	78.3	75.4	76.9	77.4	78.0	73.0	75.6	83.4	95.6
2.00	77.8	65.3	78.9	78.4	79.0	79.2	77.5	79.4	83.6	96.8
2.50	77.9	77.8	77.5	78.8	79.2	79.3	78.4	80.1	83.2	97.3
3.15	76.6	77.8	78.7	79.6	79.8	79.9	79.2	80.5	82.8	97.7
4.00	76.5	77.8	78.8	79.4	80.5	80.5	79.4	80.5	82.3	97.9
5.00	81.3	71.4	81.4	81.2	81.4	81.2	80.4	80.6	81.1	98.8
6.30	81.5	71.9	81.9	81.4	81.6	81.2	80.0	79.8	80.2	98.9
8.00	83.2	72.8	82.9	82.3	82.3	81.6	80.4	80.0	79.8	99.6
10.0	83.6	74.9	83.3	82.3	82.5	81.5	80.4	80.1	79.7	99.8
12.5	84.2	75.0	83.4	82.8	83.1	82.0	80.7	79.8	79.0	100.2
16.0	85.2	75.8	83.3	82.8	83.1	82.0	80.7	79.6	78.7	100.3
20.0	85.4	76.6	83.6	82.9	83.2	81.7	80.1	78.9	77.9	100.3
25.0	85.7	77.7	84.0	83.4	83.6	81.9	79.7	78.6	78.0	100.6
31.5	86.0	77.3	84.3	83.4	83.4	81.7	79.7	78.2	77.2	100.6
40.0	86.5	77.8	84.5	83.6	83.2	81.7	79.4	77.8	77.0	100.8
50.0	86.1	78.4	84.5	83.7	82.6	81.1	79.0	77.4	76.8	100.6
63.0	85.4	77.5	84.4	82.9	82.3	81.1	77.5	76.3	77.0	100.1
80.0	85.1	72.9	84.6	82.6	81.9	80.7	80.5	78.8	76.6	100.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPL	98.5	94.4	97.8	96.1	96.4	95.9	98.8	99.1	98.6	

OAPWL = 115.5

V_∞ =	334	fps
T_a =	46	°F
RH_a =	43	%
P_a =	1382	psia

A2-77

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3329 3329

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.9	86.9	91.2	81.6	90.4	86.3	98.9	93.7	99.1
125	84.6	81.6	89.0	89.0	80.3	86.3	99.1	93.2	97.4
160	82.5	83.1	84.2	84.5	86.5	83.6	90.5	93.0	95.8
200	83.0	80.5	83.8	84.5	85.9	83.5	88.9	90.8	94.1
250	81.4	79.7	81.5	83.6	73.8	82.6	87.3	89.8	87.2
315	78.7	80.2	79.7	72.3	68.5	82.4	85.0	87.4	99.1
400	78.0	78.7	77.3	67.4	71.0	81.0	84.4	85.7	105.7
500	77.5	78.5	78.1	73.5	75.4	81.1	83.7	85.4	93.0
630	76.7	77.9	77.4	72.1	73.3	79.1	82.6	84.8	79.5
800	69.5	78.3	78.0	74.5	76.2	79.2	82.3	80.7	84.7
1000	72.6	79.1	71.9	77.0	79.2	78.6	82.4	82.5	85.6
1250	61.9	73.1	69.6	75.5	77.0	78.6	82.4	84.0	86.7
1600	72.2	72.5	74.6	76.1	77.8	79.1	82.8	84.7	86.9
2000	74.0	71.4	76.2	78.0	79.7	80.3	76.2	85.3	86.4
2500	74.0	67.5	75.7	78.1	79.6	80.4	78.0	85.2	85.5
3150	71.4	76.8	76.2	78.4	79.8	80.6	78.6	84.8	84.4
4000	69.5	76.1	76.1	77.2	79.9	80.6	78.0	84.1	82.6
5000	77.6	68.7	78.2	79.5	80.9	81.4	80.2	82.9	81.6
6300	79.0	71.9	79.9	80.6	81.7	81.5	79.4	81.7	80.2
8000	81.7	73.3	82.1	82.8	83.2	82.5	80.8	81.7	79.8
10000	81.5	73.6	81.3	81.3	82.2	81.5	80.4	81.2	78.0
12500	81.2	72.9	80.8	81.4	82.4	81.3	79.4	79.3	76.6
16000	82.3	75.1	81.6	82.1	83.1	81.5	78.7	78.1	76.3
20000	83.2	75.8	82.0	82.3	83.0	81.2	78.0	77.4	75.3
25000	83.8	77.5	83.1	83.1	84.0	81.8	77.8	77.5	74.8
31500	84.4	77.4	83.6	83.5	84.1	81.9	78.7	77.2	76.4
40000	84.7	77.8	83.8	83.8	83.7	81.9	78.3	76.8	76.8
50000	83.9	78.2	83.4	83.8	83.3	81.2	77.5	76.7	77.2
63000	82.9	77.0	83.1	82.6	82.4	80.9	71.5	77.0	76.4
80000	82.4	73.7	82.5	82.2	81.7	80.9	82.2	76.8	75.3
TSPL	96.2	93.3	97.4	96.5	97.2	96.6	103.3	101.3	108.6
SSPL	94.1	89.5	94.1	94.3	95.0	94.5	93.9	95.8	97.6

V_∞ =	333	fps
T_a =	46	°F
RH_a =	45	%
P_a =	13.88	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STNO	C	OBS	CORR
W631	315	05/03/76		-00	000000	XARF	0	3329	3329

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049,
0.75 CONF 2 TAPE 4222

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	98.0	94.5	97.9	96.4	96.4	95.2	101.3	99.5	108.3
SSPL	96.0	90.7	94.6	94.2	94.2	93.1	91.9	94.0	97.4

ANGLES AND/ TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	98.6	94.6	97.7	95.7	95.3	93.8	99.6	97.5	106.1
SSPL	96.5	90.8	94.4	93.5	93.1	91.7	90.2	92.1	95.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3329 3329

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.3	88.4	89.8	80.9	88.6	83.3	92.2	93.6	90.5
125	87.0	83.3	89.8	86.7	78.4	82.5	92.7	93.6	89.8
160	84.9	84.4	84.3	83.8	84.6	80.8	84.9	88.0	89.9
200	85.4	81.8	84.2	83.7	84.0	80.7	83.7	86.0	87.7
250	83.8	80.9	82.2	81.3	71.8	78.9	82.6	85.0	86.0
315	81.1	81.5	78.4	69.9	66.8	78.5	81.0	81.4	85.4
400	80.4	79.8	75.3	65.8	69.3	77.4	80.2	79.8	84.7
500	79.9	79.7	77.2	72.3	73.6	77.8	79.5	80.1	82.8
630	79.1	79.1	76.4	70.7	71.6	75.8	78.2	80.3	80.7
800	71.9	80.0	77.3	73.3	74.4	76.1	78.2	77.7	77.5
1000	75.0	79.9	72.1	76.8	77.3	75.8	77.9	78.6	79.3
1250	64.3	74.6	70.3	75.2	75.1	75.6	77.8	79.3	80.8
1600	74.5	73.8	75.1	75.4	75.9	76.1	78.2	79.8	81.4
2000	76.4	72.9	76.9	77.3	77.8	77.7	73.1	75.5	82.3
2500	76.4	69.1	76.9	77.5	77.8	77.7	74.6	76.7	82.0
3150	73.8	78.2	76.5	77.8	77.9	77.9	75.2	77.0	81.5
4000	71.9	77.7	76.3	76.6	78.1	77.9	74.7	76.4	80.6
5000	80.0	70.3	79.3	78.8	79.0	78.8	76.8	77.3	79.2
6300	61.4	73.4	80.7	79.6	79.8	78.9	76.3	76.3	78.0
8000	84.1	74.8	83.0	81.9	81.2	79.9	77.7	77.3	77.9
10000	83.9	75.0	82.0	80.4	80.3	78.9	77.1	76.9	77.2
12500	83.6	74.3	81.6	80.6	80.4	78.8	76.3	75.5	75.4
16000	84.6	76.4	82.3	81.3	81.1	79.0	75.9	74.4	74.3
20000	85.6	77.1	82.6	81.4	81.0	78.8	75.4	73.7	73.5
25000	86.1	78.8	83.6	82.2	82.0	79.4	75.3	73.6	73.5
31500	86.6	78.7	84.1	82.5	82.2	79.5	76.1	73.9	73.5
40000	87.1	79.1	84.4	82.8	81.7	79.5	75.8	73.5	73.1
50000	86.3	79.5	83.9	82.6	81.3	78.8	75.0	72.9	73.1
63000	85.3	78.3	83.5	81.5	80.5	78.8	70.1	69.0	73.6
80000	84.8	75.2	83.3	81.0	79.7	78.2	78.7	76.3	72.7
TSPL	98.6	94.6	97.5	95.3	95.3	93.7	97.4	98.6	98.1
SSPL	96.5	90.8	94.6	93.4	93.1	91.9	90.3	90.5	92.5

V_∞ =	333	fps
T_a =	46	°F
RH_a =	45	%
P_a =	13.88	psia

20033F PBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=333 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3329 CONDITION 3329

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.51	1.30		1.51	1.30	THRUST,IDL	LB	27.0	11.1		N	119.9	49.5
TEMP	(R)		714.0	709.7	(K)	396.7	394.3	THRUST,MEA	LB		0.0		N		0.0
RHO	LB/FT3		0.063	0.061	KG/M3	1.006	0.970	AREA (MOD)	SQFT	0.02	0.01	SQM		0.001	0.001
VEL	FPS		975.2	779.4	M/S	297.2	237.6	W (MODEL)	LB/S	0.9	0.5	KG/S		0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.3	88.4	89.8	80.9	88.6	83.3	92.2	93.6	90.5	107.8
.125	87.0	83.3	89.8	86.7	78.4	82.5	92.7	93.6	89.8	107.1
.160	84.9	84.4	84.3	83.8	84.6	80.8	84.9	88.0	89.9	103.3
.200	85.4	81.8	84.2	83.7	84.0	80.7	83.7	86.0	87.7	102.3
.250	83.6	80.9	82.2	81.3	71.8	78.9	82.6	85.0	86.0	100.2
.315	81.1	81.5	78.4	69.9	66.8	78.5	81.0	81.4	85.4	97.8
.400	80.4	79.8	75.3	65.8	69.3	77.4	80.2	79.8	84.7	96.5
.500	79.9	79.7	77.2	72.3	73.6	77.8	79.5	80.1	82.8	96.6
.630	79.1	79.1	76.4	70.7	71.6	75.8	78.2	80.3	80.7	95.6
.800	71.9	80.0	77.3	73.3	74.4	76.1	78.2	77.7	77.5	95.3
1.00	75.0	79.9	72.1	76.8	77.3	75.8	77.9	78.6	79.3	95.6
1.25	64.3	74.6	70.3	75.2	75.1	75.6	77.8	79.3	80.8	94.2
1.60	74.5	73.8	75.1	75.4	75.9	76.1	78.2	79.8	81.4	95.0
2.00	76.4	72.9	76.9	77.3	77.8	77.7	73.1	75.5	82.3	95.1
2.50	76.4	69.1	76.9	77.5	77.8	77.7	74.6	76.7	82.0	95.2
3.15	73.8	78.2	76.5	77.8	77.9	77.9	75.2	77.0	81.5	95.8
4.00	71.9	77.7	76.3	76.6	78.1	77.9	74.7	76.4	80.6	95.3
5.00	80.0	70.3	79.3	78.8	79.0	78.8	76.8	77.3	79.2	96.4
6.30	81.4	73.4	80.7	79.8	79.8	78.9	76.3	76.3	78.0	97.2
8.00	84.1	74.8	83.0	81.9	81.2	79.9	77.7	77.3	77.9	99.0
10.0	83.9	75.0	82.0	80.4	80.3	78.9	77.1	76.9	77.2	98.1
12.5	83.6	74.3	81.6	80.6	80.4	78.8	76.3	75.5	75.4	97.9
16.0	84.6	76.4	82.3	81.3	81.1	79.0	75.9	74.4	74.3	98.5
20.0	85.6	77.1	82.6	81.4	81.0	78.8	75.4	73.7	73.5	98.8
25.0	86.1	78.8	83.6	82.2	82.0	79.4	75.3	73.6	73.5	99.6
31.5	86.8	78.7	84.1	82.5	82.2	79.5	76.1	73.9	73.5	100.0
40.0	87.1	79.1	84.4	82.8	81.7	79.5	75.8	73.5	73.1	100.1
50.0	86.3	79.5	83.9	82.8	81.3	78.8	75.0	72.9	73.1	99.7
63.0	85.3	78.3	83.5	81.5	80.5	78.8	70.1	69.0	73.6	98.8
80.0	84.8	75.2	83.3	81.0	79.7	78.2	78.7	76.3	72.7	98.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	98.6	94.6	97.5	95.3	95.3	93.8	97.4	98.6	98.1	OAPWL = 114.8

V_∞ =	333	fps
T_a =	46	°F
RH_a =	45	%
P_a =	13.88	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3330 3330

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.0	86.1	79.7	83.5	79.3	85.7	98.2	93.8	98.9
125	84.6	84.3	72.9	72.8	84.4	86.8	97.5	93.1	97.5
160	82.6	83.8	84.6	85.1	80.3	83.6	91.4	92.9	95.7
200	83.3	84.9	84.4	85.1	73.4	82.9	89.6	90.9	93.8
250	81.1	82.0	81.7	83.5	80.3	81.7	88.0	74.3	84.5
315	78.8	81.6	80.4	74.0	78.3	81.3	86.1	88.8	98.0
400	78.0	76.7	77.7	71.2	77.8	80.1	85.8	86.6	104.5
500	76.9	76.5	77.4	65.2	77.3	79.7	84.5	85.9	91.7
630	76.9	76.9	77.6	72.9	76.1	79.5	83.9	85.4	79.5
800	64.5	76.7	78.3	75.1	77.3	79.4	83.6	82.0	85.7
1000	79.0	76.4	65.6	76.1	78.0	79.5	83.0	83.5	85.8
1250	69.9	76.6	73.3	77.0	78.6	80.4	83.8	85.3	86.6
1600	73.8	76.5	76.3	78.0	79.7	81.2	76.6	86.1	87.1
2000	76.4	76.5	77.3	79.3	81.3	82.8	82.1	87.0	86.8
2500	76.4	76.2	78.2	79.9	81.7	83.1	83.1	87.2	86.0
3150	75.2	76.3	78.7	80.9	82.4	83.8	83.9	86.9	85.2
4000	75.2	76.1	79.1	80.5	82.9	84.2	83.8	86.4	83.5
5000	79.2	68.7	80.6	82.3	83.6	84.8	84.2	85.2	82.2
6300	79.8	70.7	81.6	82.8	84.1	84.6	83.2	83.8	80.8
8000	84.2	75.9	84.2	85.4	86.0	86.0	83.9	83.4	80.0
10000	83.1	74.9	83.3	83.8	84.8	84.9	82.8	82.8	78.7
12500	82.6	74.3	82.5	83.4	84.6	84.7	82.5	81.6	78.0
16000	82.9	74.6	82.5	83.9	85.2	84.5	82.0	80.7	77.5
20000	83.3	75.6	83.2	83.9	85.1	84.4	81.3	79.6	75.9
25000	83.8	77.2	83.7	84.5	85.7	84.6	80.9	79.8	76.2
31500	84.3	77.3	84.2	84.6	85.8	84.5	81.1	79.2	77.2
40000	85.2	78.2	84.6	85.0	85.4	84.3	81.1	79.3	77.4
50000	84.9	79.1	84.6	85.5	85.1	83.9	80.3	79.8	78.4
63000	84.2	78.9	84.6	85.0	84.5	83.9	77.4	81.0	78.8
80000	84.0	78.5	84.3	85.0	84.3	84.1	82.8	82.0	79.9
TSPL	96.9	94.2	96.5	97.3	97.7	98.4	103.0	101.7	107.8
SSPL	95.2	90.1	95.4	96.2	97.1	97.2	96.2	97.6	97.6

V_∞ =	332	fps
T_a =	44	°F
RH_a =	56	%
P_a =	13.88	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3330 3330

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	98.7	95.4	97.0	97.1	96.9	97.0	101.1	99.9	107.5
SSPL	97.0	91.3	95.9	96.1	96.3	95.8	94.3	95.8	97.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	99.2	95.5	96.8	96.5	95.8	95.6	99.3	97.9	105.3
SSPL	97.5	91.5	95.7	95.4	95.2	94.4	92.5	93.9	95.1

ORIGINAL MICROPHONE ANGLES.

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/03/76 -00 000000 XARF 0 3330 3330

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.4	86.4	79.9	82.2	77.5	81.9	91.8	93.2	90.6
125	87.0	84.2	71.7	73.3	82.7	83.4	91.5	92.4	89.8
160	85.0	85.1	84.8	83.4	78.4	80.3	85.8	88.6	89.7
200	85.7	86.1	84.6	82.4	71.5	79.1	84.5	86.6	87.7
250	83.5	83.2	82.0	82.2	78.3	78.6	83.8	78.3	71.3
315	81.2	82.9	79.1	72.9	76.5	78.1	81.2	83.0	86.5
400	80.4	77.9	76.6	70.5	76.0	76.9	80.8	81.4	85.3
500	79.3	77.8	75.2	64.7	75.7	76.6	79.7	81.2	83.1
630	79.3	78.2	76.8	71.8	74.3	76.3	79.2	81.4	81.1
800	66.9	78.9	77.8	74.0	75.5	76.3	79.1	79.1	78.8
1000	81.4	76.2	66.4	76.3	76.1	76.5	78.5	79.5	80.2
1250	72.3	77.9	73.7	76.5	76.8	77.4	79.3	80.7	81.9
1600	76.2	77.8	76.5	77.4	77.9	78.6	73.7	76.0	83.1
2000	78.7	77.8	77.7	78.7	79.4	80.0	78.5	80.1	83.7
2500	78.8	77.6	78.6	79.3	79.9	80.3	79.4	81.0	83.7
3150	77.5	77.7	79.3	80.3	80.5	81.0	80.2	81.3	83.2
4000	77.5	77.6	79.6	79.9	81.0	81.4	80.2	81.1	82.5
5000	81.6	70.4	82.0	81.6	81.8	82.0	80.9	80.9	81.3
6300	82.2	72.3	82.8	82.0	82.2	81.9	80.1	79.6	79.9
8000	86.6	77.4	85.2	84.6	84.1	83.3	81.0	79.8	79.3
10000	85.5	76.4	84.1	82.9	82.9	82.2	79.8	79.0	78.6
12500	85.0	75.7	83.4	82.6	82.7	82.0	79.6	78.3	77.5
16000	85.3	76.0	83.5	83.2	83.3	82.0	79.2	77.6	76.6
20000	85.7	77.0	84.0	83.1	83.2	81.9	78.7	76.7	75.5
25000	86.1	78.5	84.4	83.7	83.8	82.2	78.5	76.5	75.7
31500	86.7	78.7	84.9	83.8	83.9	82.0	78.6	76.3	75.3
40000	87.6	79.6	85.2	84.1	83.5	81.9	78.6	76.3	75.4
50000	87.3	80.4	85.3	84.5	83.1	81.5	77.7	76.0	76.0
63000	86.6	80.3	85.2	83.9	82.6	81.6	75.4	74.6	77.3
80000	86.4	79.9	84.9	83.9	82.4	81.5	79.7	78.6	78.1
TSPL	99.3	95.2	97.0	96.2	95.8	95.6	97.8	98.7	98.4
SSPL	97.5	91.5	96.1	95.4	95.2	94.5	92.8	92.8	94.0

V_∞ =	332	fps
T_a =	44	°F
RH_a =	56	%
P_a =	13.88	psia

A2-84

CH

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=332 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3330 CONDITION 3330

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.31		1.52	1.31	THRUST,IDL	LB	27.3	10.5	N	121.6	46.7
TEMP	(R)	717.2	1000.0	(K)	398.4	555.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.043	KG/M3	1.005	0.689	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	989.3	938.8	M/S	301.5	286.1	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	60	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.4	86.4	79.9	82.2	77.5	81.9	91.8	93.2	90.6	106.1
.125	87.0	84.2	71.7	73.3	82.7	83.4	91.5	92.4	89.8	105.1
.160	85.0	85.1	84.8	83.4	78.4	80.3	85.8	88.6	89.7	103.2
.200	85.7	86.1	84.6	82.4	71.5	79.1	84.5	86.6	87.7	102.4
.250	83.5	83.2	82.0	82.2	78.3	78.6	83.8	78.3	71.3	99.9
.315	81.2	82.9	79.1	72.9	76.5	78.1	81.2	83.0	86.5	98.9
.400	80.4	77.9	76.6	70.5	76.0	76.9	80.8	81.4	85.3	97.1
.500	79.3	77.8	75.2	64.7	75.7	76.6	79.7	81.2	83.1	96.1
.630	79.3	78.2	76.8	71.8	74.3	76.3	79.2	81.4	81.1	96.1
.800	66.9	78.9	77.8	74.0	75.5	76.3	79.1	79.1	78.8	95.6
1.00	81.4	76.2	66.4	76.3	76.1	76.5	78.5	79.5	80.2	95.6
1.25	72.3	77.9	73.7	76.5	76.8	77.4	79.3	80.7	81.9	96.0
1.60	76.2	77.8	76.5	77.4	77.9	78.6	73.7	76.0	83.1	95.9
2.00	78.7	77.8	77.7	78.7	79.4	80.0	78.5	80.1	83.7	97.5
2.50	76.8	77.6	78.6	79.3	79.9	80.3	79.4	81.0	83.7	98.0
3.15	77.5	77.7	79.3	80.3	80.5	81.0	80.2	81.3	83.2	98.4
4.00	77.5	77.6	79.6	79.9	81.0	81.4	80.2	81.1	82.5	98.5
5.00	81.6	70.4	82.0	81.6	81.8	82.0	80.9	80.9	81.3	99.3
6.30	82.2	72.3	82.8	82.0	82.2	81.9	80.1	79.6	79.9	99.4
8.00	86.6	77.4	85.2	84.6	84.1	83.3	81.0	79.8	79.3	101.6
10.0	85.5	76.4	84.1	82.9	82.9	82.2	79.8	79.0	78.6	100.4
12.5	85.0	75.7	83.4	82.6	82.7	82.0	79.6	78.3	77.5	100.0
16.0	85.3	76.0	83.5	83.2	83.3	82.0	79.2	77.6	76.6	100.2
20.0	85.7	77.0	84.0	83.1	83.2	81.9	78.7	76.7	75.5	100.3
25.0	86.1	78.5	84.4	83.7	83.8	82.2	78.5	76.5	75.7	100.8
31.5	86.7	78.7	84.9	83.8	83.9	82.0	78.6	76.3	75.3	101.0
40.0	87.6	79.6	85.2	84.1	83.5	81.9	78.6	76.3	75.4	101.3
50.0	87.3	80.4	85.3	84.5	83.1	81.5	77.7	76.0	76.0	101.3
63.0	86.6	80.3	85.2	83.9	82.6	81.6	75.4	74.6	77.3	100.9
80.0	86.4	79.9	84.9	83.9	82.4	81.5	79.7	78.6	78.1	101.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.3	95.2	97.0	96.2	95.8	95.6	97.8	98.7	98.4	

OAPWL = 115.2

V_∞ =	332	fps
T_a =	44	°F
RH_a =	56	%
P_a =	1388	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3331 3331

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	85.0	81.5	79.7	83.5	90.2	85.1	98.1	94.0	99.5
125	83.2	76.7	81.6	80.0	83.7	85.8	96.9	93.7	97.9
160	81.7	79.0	85.8	76.0	79.1	84.0	91.7	93.1	96.1
200	72.8	85.9	85.6	74.9	70.4	83.2	89.8	91.3	94.1
250	83.5	67.6	83.4	76.3	81.3	83.3	88.5	86.8	89.0
315	78.9	80.5	82.8	79.7	79.5	83.7	86.9	84.6	98.9
400	78.6	77.0	80.2	78.8	81.0	83.0	88.4	85.7	105.3
500	77.4	75.5	80.4	79.8	82.8	85.6	88.8	91.4	97.9
630	80.2	79.7	79.7	82.4	84.4	87.2	86.3	93.7	97.5
800	82.2	79.3	82.8	85.8	87.7	89.2	90.3	96.2	99.3
1000	82.5	79.7	83.8	86.1	88.1	89.3	92.2	97.3	99.2
1250	82.6	80.3	85.1	86.9	88.6	91.3	95.0	99.2	100.2
1600	84.2	80.1	86.5	87.8	89.8	92.1	96.3	100.3	100,6
2000	84.8	81.0	87.8	89.4	91.9	94.6	98.5	101.8	100.5
2500	86.3	81.0	88.3	90.2	92.7	95.7	99.8	102.3	99.9
3150	87.0	81.5	89.6	91.9	94.3	97.4	101.3	102.7	99.8
4000	87.5	82.2	90.5	92.7	95.9	99.4	102.5	103.2	99.6
5000	89.1	83.5	91.7	94.4	97.4	100.9	103.8	103.3	99.5
6300	89.7	83.6	92.7	95.3	98.5	102.0	104.1	103.2	99.6
8000	90.8	84.0	93.4	95.9	99.5	102.8	104.1	103.5	99.7
10000	91.1	84.9	93.7	96.4	99.8	102.7	104.1	104.0	99.4
12500	91.6	85.5	94.2	97.0	100.6	103.0	104.2	103.8	100.0
16000	93.3	87.2	95.0	97.5	101.2	103.4	104.3	103.8	100.1
20000	96.2	89.3	95.6	97.7	101.3	103.1	103.6	103.3	99.5
25000	100.5	92.3	97.2	98.9	102.0	103.2	103.3	103.6	99.8
31500	103.4	94.2	100.1	99.6	102.0	103.0	102.9	102.5	99.3
40000	104.0	95.3	102.3	101.4	102.1	102.8	102.1	101.5	98.7
50000	103.0	94.6	103.5	103.5	103.1	102.5	101.8	100.7	97.5
63000	101.8	93.3	103.4	103.8	103.9	102.9	101.2	100.3	97.2
80000	101.7	91.8	102.5	103.5	104.2	103.2	101.5	100.4	97.5
TSPL	110.9	102.8	110.7	111.4	113.1	114.4	115.5	115.6	114.2
SSPL	110.9	102.6	110.7	111.4	113.0	114.3	115.3	115.5	112.9

V_∞ =	334	fps
T_a =	44	°F
RH_a =	58	%
P_a =	13.87	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3331 3331

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	112.8	104.0	111.3	111.3	112.3	112.9	113.5	113.8	113.9
SSPL	112.7	103.8	111.2	111.3	112.2	112.9	113.3	113.7	112.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	113.3	104.1	111.0	110.6	111.2	111.5	111.7	111.8	111.7
SSPL	113.3	103.9	110.9	110.6	111.2	111.5	111.5	111.7	110.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3331 3331

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

SPL' SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	87.3	82.2	80.2	83.8	88.3	82.1	91.2	93.3	90.9
125	85.6	77.9	81.7	79.3	81.9	82.4	90.7	92.4	90.5
160	84.1	80.7	84.6	74.4	77.4	80.5	86.2	88.8	89.9
200	75.2	88.0	83.7	72.1	68.6	79.2	84.8	86.9	88.1
250	85.9	69.3	83.5	75.3	79.6	80.2	83.8	84.2	83.4
315	81.3	82.0	82.5	78.3	77.6	80.5	82.8	81.3	82.7
400	81.0	78.4	80.2	77.9	79.2	79.9	83.7	82.4	84.4
500	79.8	77.0	80.7	79.1	81.0	82.5	84.3	85.8	88.7
630	82.6	80.8	80.1	81.9	82.6	84.4	82.6	85.0	90.9
800	84.5	80.6	83.6	85.3	85.9	86.3	86.1	88.6	93.3
1000	84.9	81.1	84.6	85.5	86.2	86.3	87.5	90.4	94.2
1250	84.9	81.8	85.8	86.3	86.8	88.2	90.3	93.1	95.9
1600	86.6	81.6	87.3	87.1	87.9	89.0	91.4	94.4	96.9
2000	87.2	82.6	88.7	88.8	90.1	91.4	93.8	96.4	98.2
2500	88.7	82.5	89.3	89.6	90.9	92.6	95.1	97.4	98.6
3150	89.3	83.1	90.7	91.4	92.5	94.3	96.7	98.5	98.8
4000	89.9	83.9	91.6	92.2	94.1	96.2	98.2	99.4	99.1
5000	91.4	85.1	92.9	94.0	95.6	97.8	99.6	100.2	99.2
6300	92.0	85.3	94.0	94.9	96.7	98.9	100.2	100.3	99.1
8000	93.2	85.7	94.7	95.6	97.7	99.8	100.4	100.4	99.4
10000	93.5	86.5	94.9	96.0	98.0	99.7	100.3	100.6	99.8
12500	94.0	87.2	95.5	96.7	98.8	100.0	100.4	100.5	99.7
16000	95.6	88.7	96.1	97.2	99.4	100.5	100.6	100.5	99.7
20000	98.5	90.7	96.5	97.3	99.5	100.2	100.0	99.9	99.2
25000	102.8	93.4	97.9	98.4	100.1	100.4	99.7	99.8	99.5
31500	105.6	95.3	100.5	98.8	100.1	100.2	99.5	99.0	98.5
40000	106.4	96.6	102.8	100.4	100.2	100.1	98.9	98.1	97.6
50000	105.4	96.1	104.3	102.4	101.2	99.9	98.5	97.6	96.7
63000	104.2	94.9	104.4	102.8	101.9	100.3	98.2	97.0	96.3
80000	104.0	93.3	103.7	102.7	102.3	100.6	98.5	97.2	96.4
TSPL	113.3	104.2	111.6	110.6	111.2	111.5	111.6	111.9	111.7
SSPL	113.3	104.0	111.5	110.6	111.2	111.5	111.5	111.7	111.5

V_∞ =	334	fps
T_a =	44	°F
RH_a =	58	%
P_a =	13.87	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=334 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3331 CONDITION 3331

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	26.7	38.4	N	118.6	170.8
TEMP	(R)	732.2	1087.3	(K)	406.8	604.1	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.061	0.047	KG/M3	0.984	0.753	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	998.6	1741.0	M/S	304.4	530.7	W (MODEL)	LB/S	0.9	0.7	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	87.3	82.2	80.2	83.8	88.3	82.1	91.2	93.3	90.9	106.2
.125	85.6	77.9	81.7	79.3	81.9	82.4	90.1	92.4	90.5	104.8
.160	84.1	80.7	84.6	74.4	77.4	80.5	86.2	88.8	89.9	102.4
.200	75.2	88.0	83.7	72.1	68.6	79.2	84.8	86.9	88.1	102.2
.250	85.9	69.3	83.5	75.3	79.6	80.2	83.8	84.2	83.4	100.1
.315	81.3	82.0	82.5	78.3	77.6	80.5	82.8	81.3	82.7	99.4
.400	81.0	78.4	80.2	77.9	79.2	79.9	83.7	82.4	84.4	99.0
.500	79.8	77.0	80.7	79.1	81.0	82.5	84.3	85.8	88.7	100.7
.630	82.6	80.8	80.1	81.9	82.6	84.4	82.6	85.0	90.9	101.8
.800	84.5	80.6	83.6	85.3	85.9	86.3	86.1	88.6	93.3	104.5
1.00	84.9	81.1	84.6	85.5	86.2	86.3	87.5	90.4	94.2	105.4
1.25	84.9	81.8	85.8	86.3	86.8	88.2	90.3	93.1	95.9	107.1
1.60	86.6	81.6	87.3	87.1	87.9	89.0	91.4	94.4	96.9	108.2
2.00	87.2	82.6	88.7	88.8	90.1	91.4	93.8	96.4	98.2	110.1
2.50	88.7	82.5	89.3	89.6	90.9	92.6	95.1	97.4	98.6	111.0
3.15	89.3	83.1	90.7	91.4	92.5	94.3	96.7	98.5	98.8	112.3
4.00	89.9	83.9	91.6	92.2	94.1	96.2	98.2	99.4	99.1	113.4
5.00	91.4	85.1	92.9	94.0	95.6	97.8	99.6	100.2	99.2	114.7
6.30	92.0	85.3	94.0	94.9	96.7	98.9	100.2	100.3	99.1	115.3
8.00	93.2	85.7	94.7	95.6	97.7	99.8	100.4	100.4	99.4	115.9
10.0	93.5	86.5	94.9	96.0	98.0	99.7	100.3	100.6	99.8	116.0
12.5	94.0	87.2	95.5	96.7	98.8	100.0	100.4	100.5	99.7	116.3
16.0	95.6	88.7	96.1	97.2	99.4	100.5	100.6	100.5	99.7	116.7
20.0	98.5	90.7	96.5	97.3	99.5	100.2	100.0	99.9	99.2	116.7
25.0	102.8	93.4	97.9	98.4	100.1	100.4	99.7	99.8	99.5	117.6
31.5	105.8	95.3	100.5	98.8	100.1	100.2	99.5	99.0	98.5	118.5
40.0	106.4	96.6	102.8	100.4	100.2	100.1	98.9	98.1	97.6	119.2
50.0	105.4	96.1	104.3	102.4	101.2	99.9	98.5	97.6	96.7	119.7
63.0	104.2	94.9	104.4	102.8	101.9	100.3	98.2	97.0	96.3	119.7
80.0	104.0	93.3	103.7	102.7	102.3	100.6	98.5	97.2	96.4	119.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	113.3	104.2	111.6	110.7	111.2	111.5	111.6	111.9	111.7	

OAPWL = 129.4

V_∞ =	334	fps
T_a =	44	°F
RH_a =	58	%
P_a =	13.87	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/03/76		-00 000000	XARF 0	3332 3332

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.3	86.5	79.7	83.5	90.8	86.6	98.3	94.4	90.6
125	84.8	84.9	80.9	77.6	83.7	85.8	97.0	93.8	97.5
160	82.7	68.1	84.9	85.0	79.1	83.2	91.6	93.1	95.5
200	83.6	85.0	84.4	84.9	70.4	83.2	89.9	91.1	93.5
250	81.5	82.6	82.2	67.6	79.1	81.4	88.0	84.2	86.7
315	79.7	82.0	80.9	75.3	75.4	82.2	86.6	89.1	97.2
400	62.5	67.8	79.0	73.4	77.2	81.0	86.6	87.8	105.0
500	78.2	77.9	78.8	75.0	78.7	81.9	86.6	83.7	94.2
630	72.2	74.2	79.8	78.4	79.9	83.0	87.3	86.9	89.5
800	76.5	73.5	76.7	80.8	82.5	84.4	80.9	89.7	92.2
1000	77.2	74.2	78.8	81.4	83.2	84.7	84.8	90.7	91.7
1250	77.8	74.3	80.2	82.5	84.0	86.5	88.5	92.2	92.2
1600	79.8	74.1	81.9	83.3	85.3	87.2	89.9	93.2	92.7
2000	80.7	75.3	83.0	85.0	87.0	89.3	92.1	94.3	92.3
2500	82.0	75.1	83.9	85.8	87.8	90.2	92.9	94.6	91.7
3150	82.4	75.4	85.3	87.5	89.4	91.8	94.4	94.7	91.4
4000	83.2	75.9	86.2	88.0	90.9	93.3	95.4	95.1	90.9
5000	85.0	78.9	87.5	89.8	92.5	95.0	96.6	95.3	91.0
6300	85.1	78.7	88.4	90.6	93.2	95.8	96.6	94.8	90.8
8000	86.1	78.9	88.9	91.4	94.1	96.4	96.5	94.9	90.4
10000	86.1	79.6	89.0	91.2	94.4	96.1	95.8	94.7	89.7
12500	86.8	80.1	89.5	92.0	94.8	96.4	95.7	94.1	89.8
16000	87.7	81.0	89.6	92.3	95.2	96.5	95.7	93.7	89.5
20000	87.4	80.8	89.6	92.1	95.0	95.9	94.8	92.7	88.2
25000	87.4	81.0	89.6	92.1	95.2	95.7	94.2	92.8	88.0
31500	87.7	80.6	89.8	92.0	94.7	95.2	94.0	91.8	87.4
40000	88.1	81.0	89.9	92.2	94.0	94.5	93.0	91.1	87.0
50000	88.0	81.3	89.9	92.5	93.6	93.7	92.4	90.5	86.4
63000	87.8	81.4	90.0	91.7	93.0	93.3	91.3	90.1	86.3
80000	87.9	80.5	89.6	91.6	92.8	92.8	90.7	90.1	86.8
TSPL	99.7	95.0	101.5	103.6	106.0	107.3	108.3	107.4	108.8
SSPL	98.9	92.4	101.2	103.4	105.8	107.1	107.2	106.6	104.2

V_∞ =	334	fps
T_a =	45	°F
RH_a =	59	%
P_a =	13.87	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3332 3332

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	101.5	96.2	102.1	103.5	105.2	105.9	106.3	105.6	108.6
SSPL	100.7	93.6	101.7	103.3	105.0	105.7	105.2	104.8	103.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	102.1	96.3	101.8	102.8	104.1	104.4	104.6	103.7	106.4
SSPL	101.2	93.8	101.4	102.6	103.9	104.3	103.4	102.8	101.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/03/76		-00	000000	XARF	0	3332	3332

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.7	86.8	79.7	83.9	88.9	83.6	91.8	94.1	90.1
125	87.2	85.7	79.9	77.1	81.9	82.4	90.8	92.5	90.5
160	85.1	70.0	86.5	83.1	77.2	79.8	85.8	88.8	89.9
200	86.0	86.2	84.6	81.8	68.4	79.1	84.9	86.9	87.9
250	83.9	83.9	79.4	66.7	77.4	78.2	83.0	83.0	80.7
315	82.1	83.2	79.8	73.7	73.7	78.7	81.9	83.5	86.6
400	64.9	70.5	79.0	72.3	75.4	77.8	81.6	82.4	86.4
500	80.6	79.1	78.2	74.1	76.9	78.7	82.1	81.1	81.3
630	74.6	76.1	80.1	77.4	78.0	79.9	82.8	83.4	83.6
800	78.9	74.8	77.7	80.3	80.7	81.7	77.8	80.1	86.9
1000	79.6	75.6	79.7	80.9	81.3	81.9	80.9	83.2	87.6
1250	80.2	75.8	81.1	81.8	82.2	83.4	84.3	86.3	88.8
1600	82.2	75.7	82.8	82.7	83.4	84.2	85.5	87.6	89.7
2000	83.1	76.8	84.1	84.4	85.2	86.2	87.7	89.4	90.5
2500	84.4	76.7	85.1	85.2	86.0	87.1	88.6	90.1	90.7
3150	84.7	77.1	86.6	86.9	87.6	88.8	90.3	91.1	90.7
4000	85.5	77.6	87.5	87.5	89.1	90.3	91.4	91.9	91.0
5000	87.3	80.5	88.7	89.4	90.7	92.1	92.8	92.6	91.1
6300	87.5	80.4	89.7	90.1	91.4	92.8	93.1	92.3	90.6
8000	88.5	80.6	90.2	90.9	92.3	93.5	93.1	92.3	90.7
10000	88.5	81.3	90.2	90.8	92.5	93.2	92.5	91.8	90.4
12500	89.2	81.8	90.8	91.6	93.0	93.6	92.5	91.4	89.9
16000	90.0	82.6	90.9	91.9	93.3	93.7	92.5	91.2	89.5
20000	89.8	82.4	90.9	91.6	93.1	93.1	91.8	90.3	88.4
25000	89.7	82.6	90.8	91.8	93.3	93.0	91.2	90.0	88.6
31500	90.1	82.2	91.0	91.5	92.8	92.5	90.9	89.4	87.5
40000	90.4	82.6	91.1	91.6	92.1	91.8	90.0	88.5	86.9
50000	90.4	82.9	91.1	91.9	91.7	91.0	89.4	87.9	86.3
63000	90.1	83.0	91.1	91.0	91.1	90.7	88.4	87.0	85.9
80000	90.3	82.1	90.8	90.9	90.9	90.2	87.8	86.6	86.0
TSPL	102.1	96.3	102.6	103.0	104.1	104.4	104.4	104.4	103.6
SSPL	101.2	94.0	102.4	102.9	103.9	104.3	103.7	103.2	102.6

V_∞ =	334	fps
T_a =	45	°F
RH_a =	59	%
p_a =	13.87	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=334 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3332 CONDITION 3332

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.51	1.80		1.51	1.80	THRUST,IDL	LB	26.4	25.8	N	117.4	114.6
TEMP	(R)	717.7	1099.0	(K)	398.7	610.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.043	KG/M3	1.001	0.682	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	976.9	1430.0	M/S	297.8	435.9	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.7	86.8	79.7	83.9	88.9	83.6	91.8	94.1	90.1	107.2
.125	87.2	85.7	79.9	77.1	81.9	82.4	90.8	92.5	90.5	105.2
.160	85.1	70.0	86.5	83.1	77.2	79.8	85.8	88.8	89.9	102.9
.200	86.0	86.2	84.6	81.8	68.4	79.1	84.9	86.9	87.9	102.5
.250	83.9	83.9	79.4	66.7	77.4	78.2	83.0	83.0	80.7	99.3
.315	82.1	83.2	79.8	73.7	73.7	78.7	81.9	83.5	86.6	99.3
.400	64.9	70.5	79.0	72.3	75.4	77.8	81.6	82.4	86.4	97.2
.500	80.6	79.1	78.2	74.1	76.9	78.7	82.1	81.1	81.3	97.5
.630	74.6	76.1	80.1	77.4	78.0	79.9	82.8	83.4	83.6	98.4
.800	78.9	74.8	77.7	80.3	80.7	81.7	77.8	80.1	86.9	98.4
1.00	79.6	75.6	79.7	80.9	81.3	81.9	80.9	83.2	87.6	99.6
1.25	80.2	75.8	81.1	81.8	82.2	83.4	84.3	86.3	88.8	101.3
1.60	82.2	75.7	82.8	82.7	83.4	84.2	85.5	87.6	89.7	102.5
2.00	83.1	76.8	84.1	84.4	85.2	86.2	87.7	89.4	90.5	104.1
2.50	84.4	76.7	85.1	85.2	86.0	87.1	88.6	90.1	90.7	104.9
3.15	84.7	77.1	86.6	86.9	87.6	88.8	90.3	91.1	90.7	106.2
4.00	85.5	77.6	87.5	87.5	89.1	90.3	91.4	91.9	91.0	107.2
5.00	87.3	80.5	88.7	89.4	90.7	92.1	92.8	92.6	91.1	108.6
6.30	87.5	80.4	89.7	90.1	91.4	92.8	93.1	92.3	90.6	109.0
8.00	88.5	80.6	90.2	90.9	92.3	93.5	93.1	92.3	90.7	109.5
10.0	88.5	81.3	90.2	90.8	92.5	93.2	92.5	91.8	90.4	109.3
12.5	89.2	81.8	90.8	91.6	93.0	93.6	92.5	91.4	89.9	109.7
16.0	90.0	82.6	90.9	91.9	93.3	93.7	92.5	91.2	89.5	109.8
20.0	89.8	82.4	90.9	91.6	93.1	93.1	91.8	90.3	88.4	109.4
25.0	89.7	82.6	90.8	91.8	93.3	93.0	91.2	90.0	88.6	109.4
31.5	90.1	82.2	91.0	91.5	92.8	92.5	90.9	89.4	87.5	109.1
40.0	90.4	82.6	91.1	91.6	92.1	91.8	90.0	88.5	86.9	108.7
50.0	90.4	82.9	91.1	91.9	91.7	91.0	89.4	87.9	86.3	108.5
63.0	90.1	83.0	91.1	91.0	91.1	90.7	88.4	87.0	85.9	108.0
80.0	90.3	82.1	90.8	90.9	90.9	90.2	87.8	86.6	86.0	107.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	102.1	96.3	102.6	103.1	104.1	104.4	104.4	104.4	103.6	

OAPWL = 121.4

V_∞ =	334	fps
T_a =	45	°F
RH_a =	59	%
P_a =	13.87	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/03/76		-00 000000	XARF	0	3333	3333

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4222 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.5	85.7	83.6	85.9	81.7	81.3	98.7	95.0	99.0
125	85.6	85.2	84.2	83.7	85.8	84.6	97.1	94.7	97.5
160	74.7	84.2	85.6	79.2	82.5	83.6	90.9	94.0	96.1
200	83.9	85.2	85.1	79.2	80.3	83.2	89.2	92.1	94.0
250	82.6	83.2	67.6	81.3	84.5	83.8	87.9	90.2	90.7
315	77.2	81.9	76.5	82.8	82.7	84.1	86.7	89.6	99.8
400	79.6	78.3	71.8	81.9	84.0	85.0	90.2	90.9	105.6
500	77.6	75.2	77.3	83.3	85.8	88.7	85.1	95.5	100.4
630	82.2	81.4	84.1	86.0	87.8	90.5	92.3	97.4	100.8
800	84.6	81.5	86.5	88.9	90.9	92.5	94.3	99.9	102.8
1000	85.3	81.7	86.9	89.1	91.1	92.5	95.8	101.0	102.5
1250	85.7	82.4	88.5	90.2	91.9	94.4	98.0	102.4	102.7
1600	87.2	83.1	89.4	91.1	93.2	95.4	99.8	103.6	102.8
2000	87.7	83.8	90.9	92.7	95.0	98.0	102.2	105.0	102.5
2500	89.4	83.9	91.6	93.4	95.9	99.1	103.5	105.4	102.1
3150	90.1	84.5	92.7	95.2	97.7	100.9	105.1	105.8	102.2
4000	90.6	85.2	93.6	95.6	99.2	103.0	106.2	106.5	102.3
5000	92.1	86.4	94.8	97.7	101.0	104.8	107.4	107.0	102.8
6300	92.6	86.5	96.0	98.5	102.0	105.8	107.6	107.0	103.0
8000	94.3	87.5	96.8	99.5	103.2	106.7	108.0	107.6	103.1
10000	95.9	90.7	97.9	100.0	103.7	106.7	107.9	108.0	103.4
12500	101.8	95.4	100.0	101.6	104.5	107.2	108.2	108.1	104.2
16000	108.2	99.9	102.7	102.7	105.4	107.5	108.6	108.5	105.0
20000	109.9	101.6	105.8	104.0	105.8	107.3	108.3	108.6	105.2
25000	108.8	101.8	108.6	107.3	107.7	107.7	108.2	109.5	105.8
31500	107.5	99.6	109.2	109.2	109.3	108.5	108.4	108.7	105.4
40000	108.3	99.4	108.4	110.0	110.9	109.4	108.2	107.8	104.5
50000	108.0	99.3	108.7	110.5	111.8	110.6	108.8	107.4	103.8
63000	107.8	98.8	109.2	110.1	111.7	111.2	108.9	107.5	103.6
80000	107.7	97.6	108.5	109.7	110.8	110.4	108.9	107.3	103.9
TSPL	117.6	109.5	117.4	118.1	119.5	119.8	120.1	120.2	117.6
SSPL	117.6	109.4	117.4	118.1	119.5	119.8	120.1	120.2	117.1

V_∞ =	334	fps
T_a =	46	°F
RH_a =	59	%
P_a =	13.87	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3333 3333

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4222 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

	ANGLES IN DEGREES								
	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	119.5	110.7	117.9	118.0	118.7	118.4	118.1	118.4	117.4
SSPL	119.4	110.6	117.9	118.0	118.7	118.4	118.1	118.4	116.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

	ANGLES IN DEGREES (NOISE EMISSION ANGLES)								
	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	120.0	110.8	117.7	117.3	117.6	117.0	116.4	116.4	115.2
SSPL	120.0	110.7	117.7	117.3	117.6	117.0	116.3	116.4	114.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/03/76 -00 000000 XARF 0 3333 3333

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4222

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.9	86.4	83.9	84.5	79.6	77.8	90.8	94.5	91.7
125	88.0	86.2	84.0	82.9	83.9	81.3	90.3	93.1	91.3
160	77.1	86.2	84.5	78.0	80.7	80.5	85.2	88.7	90.8
200	86.3	86.5	84.0	77.6	78.5	80.0	84.0	86.8	88.9
250	85.0	82.7	68.6	82.0	82.7	81.0	83.1	85.2	86.7
315	79.5	82.8	77.1	82.4	80.8	81.1	82.3	83.4	87.4
400	81.9	78.6	73.0	82.1	82.2	81.9	85.3	85.9	89.1
500	80.0	76.4	78.5	83.1	84.0	86.0	81.9	84.7	93.0
630	84.6	82.8	84.7	85.3	86.0	87.5	88.1	90.4	94.5
800	87.0	82.9	87.4	88.4	89.1	89.6	89.9	92.6	97.0
1000	87.7	83.1	87.8	88.6	89.3	89.5	91.1	94.1	97.8
1250	88.1	84.0	89.3	89.6	90.0	91.4	93.3	96.2	99.0
1600	89.6	84.6	90.3	90.5	91.4	92.3	94.9	97.9	100.1
2000	90.0	85.5	91.9	92.1	93.1	94.8	97.4	100.0	101.3
2500	91.8	85.5	92.6	92.8	94.1	95.9	98.8	101.0	101.5
3150	92.5	86.1	93.9	94.7	95.9	97.8	100.5	102.1	101.7
4000	93.0	86.8	94.7	95.4	97.5	99.8	101.9	103.0	102.4
5000	94.5	88.1	96.1	97.3	99.2	101.7	103.3	103.8	102.8
6300	95.0	88.3	97.3	98.1	100.2	102.7	103.8	103.9	102.9
8000	96.7	89.2	98.1	99.2	101.5	103.7	104.3	104.4	103.5
10000	98.2	92.3	98.9	99.6	101.9	103.7	104.1	104.5	103.8
12500	104.1	96.6	100.6	101.0	102.7	104.2	104.5	104.6	104.0
16000	110.6	100.8	102.9	102.0	103.6	104.6	104.9	105.0	104.5
20000	112.3	102.6	105.8	103.0	103.9	104.4	104.5	104.8	104.6
25000	111.1	103.1	109.0	106.2	105.7	104.9	104.4	105.1	105.5
31500	109.9	101.2	110.1	108.2	107.3	105.8	104.9	104.8	104.7
40000	110.7	100.9	109.5	109.3	109.0	106.9	105.0	104.3	103.8
50000	110.4	100.8	109.9	109.8	109.9	108.1	105.8	104.4	103.3
63000	110.1	100.4	110.3	109.3	109.8	108.6	106.0	104.4	103.3
80000	110.1	99.2	109.7	108.9	108.9	107.8	105.9	104.4	103.2
TSPL	120.0	110.8	118.3	117.4	117.6	117.1	116.5	116.5	116.2
SSPL	120.0	110.7	118.3	117.3	117.6	117.0	116.4	116.5	116.2

V_∞ =	334	fps
T_a =	46	°F
RH_a =	59	%
P_a =	13.87	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4222 10.2049

STAND XARF RIG ID VT=334 TEST DATE 05/03/76 SCALE RATIO 22.5/1 RUN NUMBER 3333 CONDITION 3333

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.20		1.53	3.20	THRUST,IDL	LB	26.2	63.0	N	116.5	280.4
TEMP	(R)	701.8	1072.0	(K)	389.9	595.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.051	KG/M3	1.027	0.816	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	980.3	1915.0	M/S	298.8	583.7	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.9	86.4	83.9	84.5	79.6	77.8	90.8	94.5	91.7	106.7
.125	88.0	86.2	84.0	82.9	83.9	81.3	90.3	93.1	91.3	105.9
.160	77.1	86.2	84.5	78.0	80.7	80.5	85.2	88.7	90.8	103.0
.200	86.3	86.5	84.0	77.8	78.5	80.0	84.0	86.8	88.9	102.5
.250	85.0	82.7	68.6	82.0	82.7	81.0	83.1	85.2	86.7	101.0
.315	79.5	82.8	77.1	82.4	80.8	81.1	82.3	83.4	87.4	100.3
.400	81.9	78.6	73.0	82.1	82.2	81.9	85.3	85.9	89.1	101.2
.500	80.0	76.4	78.5	83.1	84.0	86.0	81.9	84.7	93.0	102.4
.630	84.6	82.8	84.7	85.3	86.0	87.5	88.1	90.4	94.5	105.7
.800	87.0	82.9	87.4	88.4	89.1	89.6	89.9	92.6	97.0	108.0
1.00	87.7	83.1	87.8	88.6	89.3	89.5	91.1	94.1	97.8	108.7
1.25	88.1	84.0	89.3	89.6	90.0	91.4	93.3	96.2	99.0	110.3
1.60	89.6	84.6	90.3	90.5	91.4	92.3	94.9	97.9	100.1	111.6
2.00	90.0	85.5	91.9	92.1	93.1	94.8	97.4	100.0	101.3	113.5
2.50	91.8	85.5	92.6	92.8	94.1	95.9	98.8	101.0	101.5	114.4
3.15	92.5	86.1	93.9	94.7	95.9	97.8	100.5	102.1	101.7	115.7
4.00	93.0	86.8	94.7	95.4	97.5	99.8	101.9	103.0	102.4	116.9
5.00	94.5	88.1	96.1	97.3	99.2	101.7	103.3	103.8	102.8	118.3
6.30	95.0	88.3	97.3	98.1	100.2	102.7	103.8	103.9	102.9	118.9
8.00	96.7	89.2	98.1	99.2	101.5	103.7	104.3	104.4	103.5	119.7
10.0	98.2	92.3	98.9	99.6	101.9	103.7	104.1	104.5	103.8	119.9
12.5	104.1	96.6	100.6	101.0	102.7	104.2	104.5	104.6	104.0	121.0
16.0	110.6	100.8	102.9	102.0	103.6	104.6	104.9	105.0	104.5	122.9
20.0	112.3	102.6	105.8	103.0	103.9	104.4	104.5	104.8	104.6	123.9
25.0	111.1	103.1	109.0	106.2	105.7	104.9	104.4	105.1	105.5	124.9
31.5	109.9	101.2	110.1	108.2	107.3	105.8	104.9	104.8	104.7	125.5
40.0	110.7	100.9	109.5	109.3	109.0	106.9	105.0	104.3	103.8	126.0
50.0	110.4	100.8	109.9	109.8	109.9	108.1	105.8	104.4	103.3	126.5
63.0	110.1	100.4	110.3	109.3	109.8	108.6	106.0	104.4	103.3	126.5
80.0	110.1	99.2	109.7	108.9	108.9	107.8	105.9	104.4	103.2	126.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.0	110.8	118.3	117.4	117.6	117.1	116.5	116.5	116.2	

OAPWL = 135.4

V_∞ =	334	fps
T_a =	46	°F
RH_a =	59	%
P_a =	13.87	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3334	3334

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	80.5	90.4	88.6	90.2	83.9	80.6	87.1	94.3	94.7
125	78.9	88.1	87.1	88.0	86.8	85.5	101.3	96.6	98.2
160	66.7	86.8	73.1	83.0	84.6	85.0	93.6	94.4	95.1
200	68.0	85.9	86.0	83.5	84.1	85.0	92.1	90.5	92.8
250	83.1	83.7	76.5	84.3	85.2	85.3	90.7	93.5	94.9
315	79.7	86.6	80.5	84.5	84.1	84.9	89.1	92.4	99.6
400	81.7	84.4	76.3	83.4	84.6	85.8	78.1	92.7	105.9
500	81.1	83.1	78.9	84.7	86.3	89.1	88.3	95.9	101.5
630	83.8	84.5	84.8	87.0	88.4	91.1	93.2	97.6	101.0
800	86.3	84.6	87.3	89.7	91.2	93.1	95.0	99.5	102.4
1000	86.5	84.6	87.6	89.9	91.6	93.2	96.4	100.3	101.4
1250	86.8	84.9	88.7	90.9	92.2	95.2	98.3	101.4	101.1
1600	88.6	84.9	90.2	92.3	93.9	96.5	100.4	102.8	101.2
2000	89.0	85.5	91.8	93.6	95.8	99.5	103.0	104.1	101.0
2500	90.9	85.5	92.5	94.6	96.7	100.6	104.5	104.6	100.7
3150	91.9	86.0	94.1	96.2	98.9	102.9	106.1	105.1	100.9
4000	92.2	86.3	94.9	97.3	100.7	104.9	107.2	106.2	101.4
5000	93.7	87.5	96.3	99.3	102.5	107.0	108.6	107.0	102.2
6300	94.3	87.8	97.5	100.4	103.7	108.2	109.0	107.1	102.9
8000	95.6	88.7	98.2	101.3	105.0	109.3	109.5	107.8	103.5
10000	96.7	90.6	99.3	102.1	105.7	109.4	109.7	108.7	104.3
12500	100.4	94.3	100.5	103.3	106.6	109.6	110.4	109.5	106.0
16000	107.7	99.2	102.7	104.2	107.3	110.1	111.1	110.3	107.2
20000	110.3	101.3	104.9	104.9	107.4	109.5	111.0	110.5	107.0
25000	109.7	101.8	108.0	107.3	108.7	109.6	110.7	110.9	107.1
31500	107.5	99.8	109.4	109.4	109.5	109.9	110.7	109.9	106.0
40000	108.5	99.5	108.8	110.5	111.0	110.2	110.0	109.2	105.2
50000	108.4	99.6	108.9	111.1	111.7	111.0	110.0	108.4	104.5
63000	108.1	99.1	109.3	110.8	112.1	111.5	109.9	108.1	104.4
80000	108.3	98.0	109.2	110.6	111.5	111.2	109.9	107.9	104.1
TSPL	117.9	109.6	117.6	118.9	120.2	121.3	121.8	121.0	118.0
SSPL	117.9	109.4	117.6	118.8	120.2	121.3	121.8	120.9	117.5

V_∞ =	331	fps
T_a =	47	°F
RH_a =	60	%
P_a =	13.89	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3334 3334

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	119.8	110.8	118.1	118.7	119.4	119.9	119.8	119.2	117.8
SSPL	119.8	110.6	118.1	118.7	119.4	119.9	119.8	119.1	117.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	120.3	110.9	117.8	118.1	118.3	118.5	118.1	117.2	115.6
SSPL	120.3	110.8	117.8	118.0	118.3	118.5	118.0	117.1	115.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3334 3334

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	82.9	92.1	88.8	88.5	81.7	77.8	81.2	86.6	91.1
125	81.2	89.8	87.2	86.9	84.8	82.1	93.8	96.8	93.0
160	69.0	87.9	73.6	83.2	82.8	81.8	87.7	90.7	90.9
200	70.3	88.3	85.6	82.3	82.2	81.9	86.8	88.0	87.1
250	85.5	84.3	79.1	83.9	83.3	82.3	85.5	88.3	90.2
315	82.1	87.6	80.7	83.8	82.2	81.9	84.3	86.3	89.8
400	84.1	84.9	76.8	83.2	82.7	83.4	75.7	78.5	91.5
500	83.5	83.9	79.6	84.4	84.4	86.2	84.5	87.0	93.3
630	86.1	85.7	85.2	86.3	86.6	88.0	88.8	91.0	94.7
800	88.7	85.9	88.0	89.1	89.4	90.1	90.7	92.9	96.5
1000	88.9	85.9	88.2	89.3	89.7	90.2	91.8	94.3	97.0
1250	89.1	86.3	89.4	90.2	90.4	92.1	93.8	96.0	97.9
1600	90.9	86.3	91.0	91.7	92.1	93.4	95.8	97.9	99.1
2000	91.3	87.0	92.7	93.0	94.0	96.3	98.6	100.1	100.2
2500	93.3	87.0	93.5	94.0	94.9	97.4	100.1	101.3	100.6
3150	94.3	87.6	95.2	95.7	97.1	99.8	102.0	102.4	100.9
4000	94.6	88.0	96.1	96.9	98.9	101.7	103.2	103.4	101.9
5000	96.1	89.1	97.6	98.9	100.7	103.8	104.9	104.5	102.7
6300	96.6	89.5	98.9	100.1	101.9	105.1	105.5	104.7	102.9
8000	98.0	90.3	99.6	101.1	103.3	106.3	106.2	105.3	103.6
10000	99.0	92.2	100.6	101.8	103.9	106.4	106.3	105.7	104.5
12500	102.7	95.7	101.5	102.9	104.8	106.6	106.8	106.4	105.4
16000	110.1	100.1	103.3	103.7	105.5	107.1	107.5	107.2	106.3
20000	112.7	102.2	105.2	104.2	105.6	106.5	107.2	107.3	106.4
25000	112.0	103.0	108.4	106.3	106.8	106.7	106.9	107.2	106.8
31500	109.9	101.4	110.3	108.4	107.6	107.1	107.0	106.8	105.8
40000	110.9	101.0	110.0	109.7	109.1	107.6	106.6	106.1	105.1
50000	110.8	101.1	110.2	110.4	109.8	108.4	106.9	105.6	104.3
63000	110.4	100.7	110.4	110.0	110.1	108.9	106.9	105.3	103.9
80000	110.7	99.6	110.5	109.8	109.6	108.6	106.9	105.3	103.7
TSPL	120.3	111.0	118.6	118.1	118.3	118.5	118.2	117.9	116.9
SSPL	120.3	110.8	118.6	118.1	118.3	118.5	118.2	117.8	116.8

V_∞ =	331	fps
T_a =	47	°F
RH_a =	60	%
P_a =	13 89	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=331 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3334 CONDITION 3334

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.19		1.52	3.19	THRUST,IDL	LB	25.5	59.8	N	113.4	265.9
TEMP	(R)	690.2	1279.0	(K)	383.4	710.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.042	KG/M3	1.043	0.677	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	965.5	2092.0	M/S	294.3	637.6	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	82.9	92.1	88.8	88.5	81.7	77.8	81.2	86.6	91.1	106.0
.125	81.2	89.8	87.2	86.9	84.8	82.1	93.8	96.8	93.0	108.9
.160	69.0	87.9	73.6	83.2	82.8	81.8	87.7	90.7	90.9	104.2
.200	70.3	88.3	65.6	82.3	82.2	81.9	86.8	88.0	87.1	103.7
.250	85.5	84.3	79.1	83.9	83.3	82.3	85.5	88.3	90.2	103.1
.315	82.1	87.6	80.7	83.8	82.2	81.9	84.3	86.3	89.8	103.0
.400	84.1	84.9	76.8	83.2	82.7	83.4	75.7	78.5	91.5	101.6
.500	83.5	83.9	79.6	84.4	84.4	86.2	84.5	87.0	93.3	103.8
.630	86.1	85.7	85.2	86.3	86.6	88.0	88.8	91.0	94.7	106.4
.800	88.7	85.9	88.0	89.1	89.4	90.1	90.7	92.9	96.5	108.5
1.00	88.9	85.9	88.2	89.3	89.7	90.2	91.8	94.3	97.0	109.1
1.25	89.1	86.3	89.4	90.2	90.4	92.1	93.8	96.0	97.9	110.4
1.60	90.9	86.3	91.0	91.7	92.1	93.4	95.8	97.9	99.1	112.0
2.00	91.3	87.0	92.7	93.0	94.0	96.3	98.6	100.1	100.2	114.0
2.50	93.3	87.0	93.5	94.0	94.9	97.4	100.1	101.3	100.6	115.1
3.15	94.3	87.6	95.2	95.7	97.1	99.8	102.0	102.4	100.9	116.8
4.00	94.6	88.0	96.1	96.9	98.9	101.7	103.2	103.4	101.9	118.0
5.00	96.1	89.1	97.6	98.9	100.7	103.8	104.9	104.5	102.7	119.7
6.30	96.6	89.5	98.9	100.1	101.9	105.1	105.5	104.7	102.9	120.5
8.00	98.0	90.3	99.6	101.1	103.3	106.3	106.2	105.3	103.6	121.4
10.0	99.0	92.2	100.6	101.8	103.9	106.4	106.3	105.7	104.5	121.8
12.5	102.7	95.7	101.5	102.9	104.8	106.6	106.8	106.4	105.4	122.6
16.0	110.1	100.1	103.3	103.7	105.5	107.1	107.5	107.2	106.3	124.2
20.0	112.7	102.2	105.2	104.2	105.6	106.5	107.2	107.3	106.4	125.0
25.0	112.0	103.0	108.4	106.3	106.8	106.7	106.9	107.2	106.8	125.6
31.5	109.9	101.4	110.3	108.4	107.6	107.1	107.0	106.8	105.8	126.1
40.0	110.9	101.0	110.0	109.7	109.1	107.6	106.6	106.1	105.1	126.5
50.0	110.8	101.1	110.2	110.4	109.8	108.4	106.9	105.6	104.3	126.9
63.0	110.4	100.7	110.4	110.0	110.1	108.9	106.9	105.3	103.9	126.9
80.0	110.7	99.6	110.5	109.8	109.6	108.6	106.9	105.3	103.7	126.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.3	111.0	118.6	118.1	118.3	118.5	118.2	117.9	116.9	

OAPWL = 136.2

V_∞ =	331	fps
T_a =	47	°F
RH_a =	60	%
P_a =	13 89	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3341	3341

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE,4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.7	73.8	77.8	80.3	80.0	78.6	79.2	82.7	87.3
125	74.7	76.7	79.8	80.0	78.6	79.6	81.2	83.7	88.4
160	75.1	78.7	80.7	81.6	81.1	80.7	81.3	86.4	91.8
200	77.9	80.6	82.0	84.5	83.6	84.7	87.3	87.0	91.9
250	81.1	84.2	85.5	86.5	88.1	88.8	88.4	93.5	94.2
315	85.3	88.7	88.8	88.7	89.0	89.0	89.8	93.7	100.8
400	89.1	88.2	87.9	88.5	87.9	88.7	93.0	95.4	102.8
500	89.6	88.0	88.3	88.7	90.0	93.0	96.5	100.1	103.1
630	87.5	90.0	90.2	91.3	92.6	95.1	97.7	101.2	107.3
800	90.3	91.7	92.3	94.4	96.0	96.2	98.6	104.0	107.9
1000	90.2	89.8	91.6	93.4	95.0	96.6	100.1	104.6	108.4
1250	89.9	91.6	93.0	95.0	96.3	98.6	101.5	105.3	107.3
1600	91.2	92.5	93.6	95.6	98.0	99.3	102.4	105.2	106.2
2000	92.2	93.1	94.1	95.9	98.3	100.5	103.7	105.9	105.4
2500	93.5	93.9	94.7	97.3	99.4	101.2	104.6	105.7	104.5
3150	93.5	94.4	95.5	98.0	100.1	102.7	105.7	105.6	104.1
4000	95.1	95.5	96.4	98.7	101.4	104.3	106.3	106.5	104.1
5000	95.8	96.7	97.4	100.0	102.2	105.5	107.3	106.8	104.7
6300	95.8	96.7	97.9	100.3	102.7	106.0	107.6	106.9	105.5
8000	97.3	97.7	98.8	101.1	103.9	107.2	108.4	108.1	106.8
10000	98.2	98.5	99.0	101.7	104.4	107.2	108.9	108.7	107.9
12500	100.3	99.7	100.1	102.2	104.8	107.3	109.3	109.1	109.4
16000	106.8	103.8	101.7	103.0	105.4	107.7	110.2	109.6	110.0
20000	110.6	108.2	103.6	102.8	105.1	106.9	110.5	109.6	108.8
25000	109.1	109.9	107.7	104.8	105.8	106.6	111.1	109.9	107.8
31500	106.0	107.1	108.3	107.3	106.3	106.3	111.9	108.5	106.0
40000	107.7	106.4	106.3	108.2	108.3	106.6	111.3	107.5	105.1
50000	107.1	107.2	106.2	107.7	109.1	107.3	108.5	106.5	104.0
63000	106.4	106.8	106.8	107.0	108.9	107.6	104.5	105.8	103.0
80000	105.9	105.8	105.9	106.6	107.3	106.9	100.3	105.3	102.5
TSPL	117.2	116.7	116.0	116.5	117.8	118.7	121.1	120.6	120.4
SSPL	117.2	116.7	116.0	116.5	117.8	118.7	121.1	120.6	120.2

V_∞ =	102	fps
T_a =	78	°F
RH_a =	13	%
P_a =	14.65	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	117.6	117.0	116.0	116.4	117.5	118.2	120.4	119.8	119.6
SSPL	117.6	117.0	116.0	116.4	117.5	118.1	120.4	119.7	119.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	117.8	117.1	116.0	116.2	117.2	117.8	119.9	119.2	118.9
SSPL	117.8	117.1	116.0	116.2	117.2	117.8	119.9	119.2	118.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3341 3341

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	76.4	74.2	78.0	80.0	79.3	77.7	77.8	80.3	84.1
125	75.3	77.1	79.9	79.7	78.0	78.7	79.7	81.5	85.0
160	75.7	79.2	80.8	81.3	80.5	79.8	79.8	83.6	88.3
200	78.5	81.0	82.1	84.2	83.0	83.7	85.9	85.3	88.1
250	81.8	84.6	85.6	86.3	87.6	87.9	87.0	91.1	93.0
315	86.0	89.1	88.8	88.4	88.4	88.1	88.4	91.0	96.4
400	89.8	88.5	87.9	88.2	87.3	87.7	91.4	93.0	98.1
500	89.7	88.3	88.3	88.5	89.5	92.0	94.9	97.9	100.7
630	88.2	90.4	90.3	91.1	92.1	94.1	96.1	98.7	103.4
800	91.0	92.1	92.4	94.2	95.5	95.3	97.0	101.3	105.2
1000	90.9	90.2	91.7	93.2	94.5	95.6	98.4	102.1	105.7
1250	90.6	92.0	93.1	94.8	95.8	97.6	99.9	103.1	105.4
1600	91.9	92.9	93.7	95.7	97.5	98.3	100.9	103.3	104.6
2000	92.9	93.5	94.2	95.8	97.8	99.5	102.2	104.3	104.5
2500	94.2	94.3	94.8	97.2	98.9	100.2	103.1	104.3	103.8
3150	94.1	94.7	95.6	97.8	99.6	101.6	104.3	104.4	103.3
4000	95.7	95.8	96.5	98.5	100.9	103.3	104.9	105.3	103.8
5000	96.4	97.1	97.5	99.8	101.7	104.5	106.0	105.8	104.2
6300	96.5	97.1	98.0	100.1	102.2	105.0	106.4	105.9	104.7
8000	98.0	98.1	98.9	101.0	103.5	106.2	107.2	107.0	106.0
10000	98.9	98.9	99.1	101.6	103.9	106.2	107.6	107.5	106.9
12500	100.9	100.0	100.1	102.0	104.3	106.3	108.0	107.8	107.8
16000	107.5	104.0	101.7	102.8	104.9	106.7	108.9	108.4	108.3
20000	111.2	108.3	103.5	102.5	104.6	105.9	109.1	108.6	107.7
25000	109.7	110.2	107.5	104.4	105.2	105.6	109.6	109.0	107.2
31500	106.6	107.5	108.3	107.0	105.7	105.3	110.4	108.1	105.4
40000	108.4	106.7	106.4	108.0	107.7	105.7	110.0	107.2	104.5
50000	107.8	107.5	106.2	107.5	108.5	106.4	107.4	105.8	103.6
63000	107.0	107.1	106.8	106.7	108.3	106.8	103.5	104.3	103.0
80000	106.6	106.1	105.9	106.4	106.7	106.2	99.4	103.1	103.0
TSPL	117.8	117.0	116.0	116.3	117.3	117.7	119.7	119.4	119.0
SSPL	117.8	117.0	116.0	116.3	117.3	117.7	119.7	119.4	118.9

V_∞ =	102	fps
T_a =	78	°F
RH_a =	13	%
P_a =	14.65	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/05/76 SCALE RATIO 0.0/1 RUN NUMBER 3341 CONDITION 3341

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.54	3.21		1.54	3.21	THRUST,IDL	LB	28.4	70.4	N	126.3	313.0
TEMP	(R)	724.8	1040.3	(K)	402.7	577.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.053	KG/M3	0.997	0.843	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	1005.0	1888.0	M/S	306.3	575.5	W (MODEL)	LB/S	0.9	1.2	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.4	74.2	78.0	80.0	79.3	77.7	77.8	80.3	84.1	97.1
.125	75.3	77.1	79.9	79.7	78.0	78.7	79.7	81.5	85.0	97.9
.160	75.7	79.2	80.8	81.3	80.5	79.8	79.8	83.6	88.3	99.6
.200	78.5	81.0	82.1	84.2	83.0	83.7	85.9	85.3	88.1	102.1
.250	81.6	84.6	85.6	86.3	87.6	87.9	87.0	91.1	93.0	105.9
.315	86.0	89.1	88.8	88.4	88.4	88.1	88.4	91.0	96.4	107.8
.400	89.8	88.5	87.9	88.2	87.3	87.7	91.4	93.0	98.1	108.6
.500	89.7	86.3	88.3	88.5	89.5	92.0	94.9	97.9	100.7	111.4
.630	88.2	90.4	90.3	91.1	92.1	94.1	96.1	98.7	103.4	113.2
.800	91.0	92.1	92.4	94.2	95.5	95.3	97.0	101.3	105.2	115.2
1.00	90.9	90.2	91.7	93.2	94.5	95.6	98.4	102.1	105.7	115.5
1.25	90.6	92.0	93.1	94.8	95.8	97.6	99.9	103.1	105.4	116.5
1.60	91.9	92.9	93.7	95.7	97.5	98.3	100.9	103.3	104.6	116.9
2.00	92.9	93.5	94.2	95.8	97.8	99.5	102.2	104.3	104.5	117.7
2.50	94.2	94.3	94.8	97.2	98.9	100.2	103.1	104.3	103.8	118.2
3.15	94.1	94.7	95.6	97.8	99.6	101.6	104.3	104.4	103.3	118.9
4.00	95.7	95.8	96.5	98.5	100.9	103.3	104.9	105.3	103.8	119.8
5.00	96.4	97.1	97.5	99.8	101.7	104.5	106.0	105.8	104.2	120.8
6.30	96.5	97.1	98.0	100.1	102.2	105.0	106.4	105.9	104.7	121.1
8.00	98.0	98.1	98.9	101.0	103.5	106.2	107.2	107.0	106.0	122.2
10.0	98.9	98.9	99.1	101.6	103.9	106.2	107.6	107.5	106.9	122.6
12.5	100.9	100.0	100.1	102.0	104.3	106.3	108.0	107.8	107.8	123.1
16.0	107.5	104.0	101.7	102.8	104.9	106.7	108.9	108.4	108.3	124.3
20.0	111.2	108.3	103.5	102.5	104.6	105.9	109.1	108.6	107.7	125.4
25.0	109.7	110.2	107.5	104.4	105.2	105.6	109.6	109.0	107.2	126.2
31.5	106.6	107.5	108.3	107.0	105.7	105.3	110.4	108.1	105.4	125.8
40.0	108.4	106.7	106.4	108.0	107.7	105.7	110.0	107.2	104.5	125.8
50.0	107.8	107.5	106.2	107.5	108.5	106.4	107.4	105.8	103.6	125.4
63.0	107.0	107.1	106.8	106.7	108.3	106.8	103.5	104.3	103.0	124.8
80.0	106.6	106.1	105.9	106.4	106.7	106.2	99.4	103.1	103.0	123.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	117.6	117.0	116.0	116.3	117.3	117.7	119.7	119.4	119.0	OAPWL = 136.0

V_∞ =	102	fps
T_a =	78	°F
RH_a =	13	%
P_a =	14.65	psia

A2-105

DECK	LO	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3342	3342

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.3	69.4	78.8	82.3	81.6	79.4	79.9	80.4	86.6
125	71.2	75.6	80.7	81.6	79.9	79.2	79.9	80.7	86.9
160	70.4	75.5	78.8	80.3	80.3	79.9	79.2	83.3	90.1
200	74.1	77.1	79.6	82.9	81.8	82.8	85.4	83.3	89.9
250	79.4	82.8	83.5	85.0	86.1	86.8	86.4	91.2	92.2
315	83.6	86.9	86.8	86.6	86.4	86.3	87.0	91.8	98.6
400	86.4	85.1	84.7	86.1	85.7	86.3	90.6	93.2	100.5
500	85.3	84.1	85.0	86.1	87.5	90.5	93.4	97.6	101.1
630	84.7	86.8	87.7	89.2	90.5	92.8	95.1	98.6	103.8
800	87.3	87.8	89.4	91.9	93.2	93.9	96.6	101.0	104.9
1000	87.9	87.8	88.7	91.0	93.0	94.5	97.1	101.8	104.5
1250	88.3	90.0	90.7	93.3	94.4	96.2	98.9	102.4	103.2
1600	89.5	90.5	91.6	93.7	95.8	96.9	100.0	102.7	102.4
2000	90.4	91.1	92.1	94.2	96.2	98.6	101.5	103.3	101.3
2500	91.8	92.1	92.7	95.6	97.4	99.3	102.4	103.3	100.5
3150	91.9	92.8	93.8	96.3	98.5	100.7	103.5	103.2	100.1
4000	93.3	93.8	94.6	97.1	99.6	102.4	104.5	104.2	100.1
5000	94.4	95.4	95.6	98.4	100.6	103.9	105.6	104.5	100.6
6300	94.7	95.5	96.7	99.1	101.6	104.6	106.1	104.9	101.4
8000	96.1	96.3	97.4	99.8	102.7	105.9	106.9	105.9	102.0
10000	97.2	97.7	98.1	100.5	103.2	106.1	107.4	106.5	102.8
12500	100.0	99.1	99.1	101.4	103.9	106.5	108.0	106.9	104.2
16000	107.3	103.9	101.3	102.5	104.8	106.8	109.0	107.4	105.0
20000	110.6	108.4	103.7	102.6	104.4	106.0	109.5	107.5	104.8
25000	109.0	109.8	107.6	105.0	105.3	105.8	110.0	108.1	104.8
31500	105.9	107.0	108.1	107.4	106.3	105.7	111.1	106.9	103.0
40000	107.2	106.2	106.2	108.0	108.1	106.1	110.2	105.7	102.1
50000	106.5	106.6	105.9	107.5	108.5	107.0	107.3	104.5	100.7
63000	105.5	106.1	106.2	106.8	106.3	107.2	103.0	103.8	99.7
80000	105.2	105.2	105.5	106.3	106.8	106.5	98.3	103.0	98.9
TSPL	116.9	116.4	115.6	116.1	117.1	117.7	119.7	118.4	116.5
SSPL	116.9	116.4	115.5	116.1	117.1	117.7	119.7	118.4	116.3

V_∞ =	201	fps
T_a =	66	°F
RH_a =	18	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00	000000	XARF	0	3342	3342

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	117.8	117.0	115.7	115.9	116.5	116.8	118.4	117.0	115.8
SSPL	117.8	116.9	115.7	115.9	116.5	116.8	118.4	116.9	115.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	118.2	117.1	115.6	115.6	115.9	115.9	117.4	115.9	114.3
SSPL	118.2	117.1	115.6	115.5	115.9	115.9	117.4	115.8	114.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3342 3342

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	73.6	70.5	79.7	81.8	80.3	77.7	77.5	77.1	80.0
125	72.5	76.7	81.2	80.9	78.6	77.4	77.5	77.3	80.3
160	71.7	76.6	79.2	79.8	79.1	78.1	76.8	78.4	83.4
200	75.4	78.0	80.1	82.4	80.6	80.9	82.8	81.1	82.7
250	80.7	83.7	83.6	84.5	85.0	85.0	83.9	86.5	89.5
315	84.9	87.7	86.8	85.9	85.2	84.5	84.3	86.6	91.9
400	87.7	85.7	84.8	85.5	84.5	84.4	87.4	89.1	93.3
500	86.6	84.7	85.2	85.6	86.4	88.5	90.4	93.1	96.6
630	86.0	87.6	87.9	88.7	89.4	90.8	92.2	94.3	98.1
800	88.6	88.5	89.7	91.5	92.0	92.0	93.6	96.4	100.2
1000	89.2	88.5	88.9	90.6	91.9	92.6	94.1	97.2	100.6
1250	89.6	90.8	91.0	92.9	93.3	94.3	96.0	98.5	100.5
1600	90.8	91.3	91.9	93.3	94.7	95.0	97.0	99.3	100.4
2000	91.7	91.8	92.4	93.8	95.1	96.6	98.7	100.4	100.4
2500	93.2	92.8	93.0	95.2	96.3	97.4	99.6	100.9	100.1
3150	93.2	93.5	94.0	95.9	97.4	98.7	100.8	101.2	99.7
4000	94.6	94.5	94.8	96.7	98.5	100.4	101.9	102.3	100.4
5000	95.7	96.1	95.8	98.0	99.5	101.9	103.2	102.9	100.7
6300	96.0	96.3	97.0	98.7	100.5	102.6	103.7	103.3	101.2
8000	97.5	97.1	97.7	99.5	101.7	104.0	104.7	104.2	102.1
10000	98.5	98.4	98.3	100.1	102.1	104.2	105.0	104.8	102.8
12500	101.3	99.7	99.2	101.0	102.8	104.5	105.6	105.1	103.4
16000	108.6	104.2	101.2	102.1	103.7	104.9	106.5	105.9	104.0
20000	111.9	108.6	103.3	102.0	103.3	104.0	106.8	106.2	104.0
25000	110.3	110.3	107.2	104.3	104.1	103.8	107.1	106.9	104.4
31500	107.2	107.8	108.1	106.7	105.0	103.8	108.2	106.7	102.8
40000	108.5	106.8	106.4	107.5	106.9	104.3	107.5	105.6	101.7
50000	107.8	107.2	106.0	107.0	107.3	105.3	105.2	103.5	100.6
63000	106.8	106.7	106.2	106.3	107.1	105.6	101.4	101.1	100.1
80000	106.5	105.9	105.6	105.8	105.6	105.1	97.3	98.5	99.7
TSPL	118.2	117.0	115.6	115.6	115.9	115.9	117.2	116.7	115.1
SSPL	118.2	116.9	115.5	115.6	115.9	115.9	117.2	116.7	115.1

V_∞ =	201	fps
T_a =	66	°F
RH_a =	18	%
P_a =	14.41	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3342 CONDITION 3342

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	3.20		1.53	3.20	THRUST,IDL	LB		27.8	65.7	N	123.5	292.3
TEMP	(R)		701.5	1062.7	(K)	389.7	590.4	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.064	0.051	KG/M3	1.028	0.823	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		982.1	1906.0	M/S	299.3	580.9	W (MODEL)	LB/S		0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	73.6	70.5	79.7	81.8	80.3	77.7	77.5	77.1	80.0	97.0
.125	72.5	76.7	81.2	80.9	78.6	77.4	77.5	77.3	80.3	97.1
.160	71.7	76.6	79.2	79.8	79.1	78.1	76.8	78.4	83.4	96.9
.200	75.4	78.0	80.1	82.4	80.6	80.9	82.8	81.1	82.7	99.2
.250	80.7	83.7	83.6	84.5	85.0	85.0	83.9	86.5	89.5	103.1
.315	84.9	87.7	86.8	85.9	85.2	84.5	84.3	86.6	91.9	104.8
.400	87.7	85.7	84.8	85.5	84.5	84.4	87.4	89.1	93.3	105.1
.500	86.6	84.7	85.2	85.6	86.4	88.5	90.4	93.1	96.6	107.4
.630	86.0	87.6	87.9	88.7	89.4	90.8	92.2	94.3	98.1	109.3
.800	88.6	88.5	89.7	91.5	92.0	92.0	93.6	96.4	100.2	111.2
1.00	89.2	88.5	88.9	90.6	91.9	92.6	94.1	97.2	100.6	111.5
1.25	89.6	90.8	91.0	92.9	93.3	94.3	96.0	98.5	100.5	112.8
1.60	90.8	91.3	91.9	93.3	94.7	95.0	97.0	99.3	100.4	113.6
2.00	91.7	91.8	92.4	93.8	95.1	96.6	98.7	100.4	100.4	114.5
2.50	93.2	92.8	93.0	95.2	96.3	97.4	99.6	100.9	100.1	115.3
3.15	93.2	93.5	94.0	95.9	97.4	98.7	100.8	101.2	99.7	116.1
4.00	94.6	94.5	94.8	96.7	98.5	100.4	101.9	102.3	100.4	117.2
5.00	95.7	96.1	95.8	98.0	99.5	101.9	103.2	102.9	100.7	118.3
6.30	96.0	96.3	97.0	98.7	100.5	102.6	103.7	103.3	101.2	118.9
8.00	97.5	97.1	97.7	99.5	101.7	104.0	104.7	104.2	102.1	120.0
10.0	98.5	98.4	98.3	100.1	102.1	104.2	105.0	104.8	102.8	120.5
12.5	101.3	99.7	99.2	101.0	102.8	104.5	105.6	105.1	103.4	121.1
16.0	108.6	104.2	101.2	102.1	103.7	104.9	106.5	105.9	104.0	123.0
20.0	111.9	108.6	103.3	102.0	103.3	104.0	106.8	106.2	104.0	124.6
25.0	110.3	110.3	107.2	104.3	104.1	103.8	107.1	106.9	104.4	125.4
31.5	107.2	107.8	108.1	106.7	105.0	103.8	108.2	106.7	102.8	125.1
40.0	108.5	106.8	106.4	107.5	106.9	104.3	107.5	105.6	101.7	124.9
50.0	107.8	107.2	106.0	107.0	107.3	105.3	105.2	103.5	100.6	124.5
63.0	106.6	106.7	106.2	106.3	107.1	105.6	101.4	101.1	100.1	123.9
80.0	106.5	105.9	105.6	105.8	105.6	105.1	97.3	98.5	99.7	123.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	118.2	117.0	115.6	115.6	116.0	115.9	117.2	116.7	115.1	OAPWL = 134.7

V_∞ =	201	fps
T_a =	66	°F
RH_a =	18	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3343	3343

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.1	76.5	70.7	77.1	77.1	75.3	71.0	85.5	88.3
125	74.5	67.1	76.6	77.5	75.7	76.0	75.7	84.7	73.6
160	72.1	68.5	75.1	76.5	76.4	76.3	73.7	71.1	84.9
200	66.3	71.2	75.7	79.3	78.6	79.6	81.6	75.7	85.5
250	74.7	78.7	80.0	81.2	82.4	83.3	82.6	87.0	88.1
315	79.6	82.9	82.8	82.8	82.8	82.7	83.7	87.8	94.6
400	82.6	81.5	81.0	82.2	82.3	83.0	87.2	89.3	96.7
500	81.4	80.3	81.3	82.3	83.6	86.5	89.5	93.3	96.9
630	81.1	83.3	83.9	85.2	86.7	88.9	91.3	94.5	99.5
800	83.8	84.1	85.5	87.8	89.3	90.2	92.6	96.7	100.5
1000	84.5	84.4	85.2	87.4	89.4	90.7	93.3	97.3	99.9
1250	84.7	86.6	87.2	89.7	91.0	92.6	95.2	98.3	99.2
1600	86.0	87.3	88.2	90.3	92.2	93.3	96.2	98.6	98.6
2000	87.1	87.7	88.7	90.8	92.7	94.8	97.7	99.5	97.8
2500	88.6	89.0	89.6	92.2	94.0	95.6	98.7	99.6	96.9
3150	88.6	89.6	90.7	93.1	95.1	97.3	99.9	99.5	96.4
4000	89.9	90.6	91.5	93.6	96.1	98.7	100.8	100.3	96.3
5000	91.2	92.1	92.6	95.1	97.4	100.4	102.1	100.8	97.0
6300	91.2	92.0	93.5	95.7	98.2	101.1	102.7	100.8	97.5
8000	92.5	92.8	94.2	96.4	99.4	102.3	103.1	101.8	97.8
10000	93.0	93.7	94.8	97.2	100.1	102.6	103.7	102.4	98.3
12500	92.8	93.8	95.0	97.9	100.5	102.9	103.9	102.5	98.7
16000	93.6	94.2	95.3	98.0	101.1	103.1	104.7	102.7	98.8
20000	94.1	94.1	95.2	97.8	100.6	102.6	105.0	102.2	98.6
25000	98.0	96.6	95.7	98.0	101.1	102.0	105.2	102.6	99.2
31500	102.4	100.2	97.6	97.8	100.4	101.6	106.1	101.5	98.4
40000	102.8	102.3	100.4	98.8	99.8	100.6	105.1	100.2	97.5
50000	100.6	101.2	101.3	101.0	99.9	100.0	101.3	98.8	95.7
63000	99.5	99.7	100.4	101.1	100.9	100.0	96.5	97.6	94.3
80000	99.6	99.3	99.3	100.3	100.8	99.8	91.8	96.4	93.5
TSPL	109.6	109.2	109.0	110.1	111.8	113.3	115.3	113.8	111.9
SSPL	109.5	109.2	109.0	110.1	111.8	113.3	115.3	113.7	111.6

V_∞ =	200	fps
T_a =	64	°F
RH_a =	27	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3343	3343

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	110.5	109.8	109.2	109.9	111.2	112.4	114.0	112.3	111.2
SSPL	110.5	109.8	109.2	109.9	111.2	112.4	114.0	112.3	110.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	110.9	109.9	109.1	109.6	110.6	111.5	113.0	111.2	109.7
SSPL	110.8	109.9	109.1	109.5	110.6	111.5	113.0	111.2	109.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/05/76		-00 000000	XARF 0	3343 3343

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	78.4	76.8	70.9	76.8	75.9	73.8	68.4	76.5	85.3
125	75.8	67.9	77.3	76.8	74.5	74.3	72.9	79.5	79.6
160	73.4	69.4	75.6	76.0	75.1	74.6	72.2	68.2	72.8
200	67.6	72.4	76.3	78.8	77.4	77.7	79.5	74.8	75.8
250	76.0	79.6	80.2	80.7	81.3	81.5	80.2	82.5	85.3
315	80.9	83.7	82.8	82.2	81.6	80.9	81.0	83.0	87.9
400	84.0	82.1	81.1	81.6	81.1	81.0	84.0	85.4	89.3
500	82.7	81.0	81.5	81.8	82.5	84.5	86.4	89.0	92.3
630	82.4	84.1	84.1	84.7	85.6	86.9	88.4	90.3	93.9
800	85.1	84.8	85.7	87.4	88.1	88.3	89.6	92.3	95.8
1000	85.8	85.1	85.4	87.0	88.3	88.8	90.3	93.0	96.0
1250	86.0	87.3	87.4	89.3	89.9	90.7	92.3	94.6	96.4
1600	87.3	88.0	88.4	89.9	91.1	91.4	93.3	95.3	96.4
2000	88.4	88.4	88.9	90.4	91.6	92.9	94.9	96.6	96.7
2500	89.9	89.7	89.9	91.8	92.9	93.7	95.9	97.2	96.4
3150	90.0	90.4	90.9	92.6	93.9	95.3	97.2	97.5	96.0
4000	91.2	91.3	91.7	93.2	95.0	96.7	98.2	98.4	96.5
5000	92.5	92.8	92.8	94.7	96.3	98.4	99.7	99.2	97.0
6300	92.5	92.8	93.8	95.3	97.1	99.1	100.4	99.5	97.1
8000	93.8	93.6	94.5	96.1	98.4	100.4	100.9	100.3	98.0
10000	94.3	94.4	95.1	96.8	99.0	100.7	101.4	100.9	98.5
12500	94.1	94.5	95.3	97.5	99.4	101.0	101.6	100.9	98.7
16000	94.9	94.9	95.6	97.7	100.0	101.2	102.4	101.5	98.8
20000	95.4	94.8	95.5	97.4	99.5	100.6	102.6	101.3	98.3
25000	99.3	97.1	95.8	97.6	100.0	100.0	102.5	101.6	98.8
31500	103.7	100.6	97.4	97.3	99.3	99.6	103.4	101.4	97.6
40000	104.1	102.8	100.2	98.2	98.7	98.7	102.4	100.2	96.4
50000	101.9	101.9	101.3	100.3	98.7	98.2	99.0	97.7	95.1
63000	100.8	100.3	100.5	100.5	99.6	98.4	94.8	94.7	94.2
80000	100.9	99.9	99.4	99.8	99.6	98.4	90.7	91.8	93.4
TSPL	110.9	109.8	109.1	109.6	110.7	111.5	112.8	112.2	110.5
SSPL	110.8	109.8	109.1	109.6	110.7	111.4	112.8	112.1	110.4

V_∞ =	200	fps
T_a =	64	°F
RH_a =	27	%
P_a =	14.41	psia

STAND XARF RIG ID VT=200 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3343 CONDITION 3343

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.49		1.52	2.49	THRUST,IDL	LB	27.7	45.9	N	123.2	204.2
TEMP	(R)	696.3	1090.3	(K)	386.8	605.7	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.047	KG/M3	1.034	0.750	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	969.2	1739.0	M/S	295.4	530.0	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	78.4	76.8	70.9	76.8	75.9	73.8	68.4	76.5	85.3	95.0
.125	75.8	67.9	77.3	76.8	74.5	74.3	72.9	79.5	79.6	94.2
.160	73.4	69.4	75.6	76.0	75.1	74.6	72.2	68.2	72.8	92.2
.200	67.6	72.4	76.3	78.8	77.4	77.7	79.5	74.8	75.8	95.2
.250	76.0	79.6	80.2	80.7	81.3	81.5	80.2	82.5	85.3	99.3
.315	80.9	83.7	82.8	82.2	81.6	80.9	81.0	83.0	87.9	101.0
.400	84.0	82.1	81.1	81.6	81.1	81.0	84.0	85.4	89.3	101.4
.500	82.7	81.0	81.5	81.8	82.5	84.5	86.4	89.0	92.3	103.3
.630	82.4	84.1	84.1	84.7	85.6	86.9	88.4	90.3	93.9	105.4
.800	85.1	84.8	85.7	87.4	88.1	88.3	89.6	92.3	95.8	107.2
1.00	85.8	85.1	85.4	87.0	88.3	88.8	90.3	93.0	96.0	107.5
1.25	86.0	87.3	87.4	89.3	89.9	90.7	92.3	94.6	96.4	109.1
1.60	87.3	88.0	88.4	89.9	91.1	91.4	93.3	95.3	96.4	109.9
2.00	88.4	88.4	88.9	90.4	91.6	92.9	94.9	96.6	96.7	110.9
2.50	89.9	89.7	89.9	91.8	92.9	93.7	95.9	97.2	96.4	111.7
3.15	90.0	90.4	90.9	92.6	93.9	95.3	97.2	97.5	96.0	112.6
4.00	91.2	91.3	91.7	93.2	95.0	96.7	98.2	98.4	96.5	113.6
5.00	92.5	92.8	92.8	94.7	96.3	98.4	99.7	99.2	97.0	114.9
6.30	92.5	92.8	93.8	95.3	97.1	99.1	100.4	99.5	97.1	115.4
8.00	93.8	93.6	94.5	96.1	98.4	100.4	100.9	100.3	98.0	116.3
10.0	94.3	94.4	95.1	96.8	99.0	100.7	101.4	100.9	96.5	116.9
12.5	94.1	94.5	95.3	97.5	99.4	101.0	101.6	100.9	98.7	117.1
16.0	94.9	94.9	95.6	97.7	100.0	101.2	102.4	101.5	98.8	117.6
20.0	95.4	94.8	95.5	97.4	99.5	100.6	102.6	101.3	98.3	117.4
25.0	99.3	97.1	95.8	97.6	100.0	100.0	102.5	101.6	98.8	117.8
31.5	103.7	100.6	97.4	97.3	99.3	99.6	103.4	101.4	97.6	118.7
40.0	104.1	102.8	100.2	98.2	98.7	98.7	102.4	100.2	96.4	119.1
50.0	101.9	101.9	101.3	100.3	98.7	98.2	99.0	97.7	95.1	118.4
63.0	100.8	100.3	100.5	100.5	99.6	98.4	94.8	94.7	94.2	117.5
80.0	100.9	99.9	99.4	99.8	99.6	98.4	90.7	91.8	93.4	116.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	110.9	109.8	109.1	109.6	110.7	111.5	112.8	112.2	110.5	

OAPWL = 129.1

V_∞ =	200	fps
T_a =	64	°F
RH_a =	27	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3344	3344

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	70.7	70.3	74.2	76.4	75.6	74.0	75.7	78.7	83.3
125	71.4	73.9	76.9	76.8	75.8	76.9	78.2	80.4	85.1
160	71.8	75.6	77.7	78.9	78.4	78.0	78.4	83.1	88.5
200	75.1	77.6	78.8	81.6	80.7	81.6	84.2	84.1	88.5
250	77.9	81.2	82.5	83.1	84.6	85.9	85.1	90.2	90.9
315	81.7	84.9	85.1	85.2	85.6	85.5	86.8	90.1	97.2
400	85.9	85.1	84.7	85.4	84.8	85.6	89.6	92.2	99.3
500	85.4	84.7	84.8	85.4	86.7	89.4	93.1	96.6	99.3
630	84.1	86.3	86.7	87.9	89.5	91.7	94.0	97.6	103.1
800	86.9	87.7	88.8	90.9	92.4	92.8	95.2	100.0	103.7
1000	87.2	86.7	88.2	90.3	91.8	93.4	96.4	100.6	104.0
1250	86.9	88.7	89.8	92.0	93.2	95.1	97.9	101.5	103.3
1600	88.2	89.2	90.5	92.6	94.6	96.0	99.0	101.6	102.3
2000	89.0	90.1	91.0	93.0	95.2	97.3	100.3	102.3	101.6
2500	90.7	91.0	91.7	94.1	96.1	98.0	101.1	102.3	100.7
3150	90.6	91.6	92.5	94.9	96.9	99.5	102.2	102.2	100.4
4000	92.1	92.6	93.4	95.7	98.2	101.0	103.1	103.0	100.5
5000	92.9	93.9	94.3	97.0	99.2	102.5	104.3	103.3	100.9
6300	92.9	93.7	95.0	97.5	99.8	103.0	104.6	103.3	101.5
8000	94.0	94.5	95.7	98.1	101.0	104.1	105.1	104.3	101.9
10000	94.3	95.2	96.2	98.5	101.4	104.1	105.6	104.8	102.1
12500	94.2	95.1	96.3	99.0	101.8	104.1	105.8	104.8	102.9
16000	94.7	95.4	96.5	99.2	102.2	104.4	106.6	104.9	103.4
20000	94.8	95.4	96.2	98.7	101.8	103.7	106.6	104.4	103.4
25000	97.6	96.9	96.6	99.1	102.4	103.5	107.1	105.2	103.7
31500	102.2	99.9	97.8	98.9	101.6	103.1	108.0	104.6	102.6
40000	103.2	102.6	100.4	99.4	101.2	102.5	107.3	103.5	101.7
50000	101.4	102.1	102.1	101.6	101.1	102.0	103.9	102.4	100.6
63000	100.6	101.2	101.7	102.5	102.4	102.0	99.6	101.5	99.6
80000	101.5	101.1	101.1	102.1	102.7	102.0	95.5	101.1	99.0
TSPL	110.4	110.3	110.2	111.5	113.3	115.1	117.4	116.6	115.9
SSPL	110.3	110.2	110.1	111.4	113.3	115.1	117.4	116.5	115.7

V_∞ =	101	fps
T_a =	67	°F
RH_a =	37	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG ND STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3344 3344

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	110.8	110.5	110.2	111.3	113.0	114.6	116.7	115.7	115.1
SSPL	110.6	110.5	110.2	111.3	113.0	114.5	116.7	115.7	114.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	111.0	110.6	110.2	111.2	112.7	114.2	116.2	115.2	114.5
SSPL	111.0	110.6	110.2	111.2	112.7	114.2	116.2	115.1	114.3

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3344 3344

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	71.4	70.7	74.4	76.1	74.9	73.1	74.2	76.4	80.0
125	72.1	74.3	77.0	76.4	75.2	76.0	76.8	78.3	81.7
160	72.5	76.0	77.8	78.6	77.7	77.1	77.0	80.4	85.0
200	75.7	78.0	78.9	81.3	80.1	80.6	82.8	82.4	85.0
250	78.5	81.6	82.6	82.9	84.1	85.0	83.7	87.8	89.7
315	82.4	85.3	85.1	84.9	85.0	84.6	85.4	87.5	92.8
400	86.6	85.4	84.7	85.1	84.2	84.6	88.0	89.8	94.8
500	86.1	85.0	84.8	85.2	86.2	88.4	91.5	94.4	97.0
630	84.8	86.7	86.8	87.7	89.0	90.7	92.5	95.1	99.5
800	87.6	88.1	88.9	90.7	91.9	91.9	93.6	97.5	101.1
1000	87.9	87.1	88.3	90.1	91.3	92.4	94.8	98.2	101.4
1250	87.6	89.1	89.9	91.8	92.7	94.1	96.3	99.4	101.4
1600	88.9	89.6	90.6	92.4	94.1	95.0	97.5	99.8	100.9
2000	89.7	90.5	91.1	92.9	94.7	96.3	98.8	100.7	100.8
2500	91.4	91.4	91.8	94.0	95.6	97.0	99.7	101.0	100.2
3150	91.2	91.9	92.6	94.7	96.4	98.4	100.8	101.0	99.8
4000	92.7	92.9	93.5	95.5	97.7	100.0	101.7	101.9	100.2
5000	93.5	94.3	94.4	96.8	98.7	101.5	103.0	102.4	100.5
6300	93.6	94.1	95.1	97.3	99.3	102.0	103.4	102.4	100.8
8000	94.7	94.9	95.8	98.0	100.6	103.2	103.9	103.4	101.6
10000	95.0	95.6	96.3	98.3	100.9	103.1	104.4	103.9	101.9
12500	94.8	95.5	96.4	98.8	101.3	103.1	104.5	103.8	102.3
16000	95.4	95.8	96.6	99.1	101.7	103.4	105.3	104.1	102.5
20000	95.4	95.8	96.3	98.5	101.3	102.7	105.3	103.6	102.2
25000	96.2	97.2	96.6	98.9	101.9	102.5	105.7	104.4	102.8
31500	102.8	100.1	97.8	98.7	101.1	102.1	106.6	104.2	101.8
40000	103.9	102.9	100.4	99.2	100.7	101.5	106.0	103.2	100.8
50000	102.1	102.5	102.1	101.3	100.5	101.1	102.7	101.6	99.9
63000	101.2	101.5	101.7	102.2	101.7	101.1	98.5	99.9	99.3
80000	102.2	101.4	101.1	101.9	102.1	101.3	94.6	98.7	99.2
TSPL	111.0	110.6	110.2	111.3	112.8	114.1	116.1	115.5	114.7
SSPL	111.0	110.5	110.2	111.2	112.8	114.1	116.1	115.4	114.6

V_∞ =	101	fps
T_a =	67	°F
RH_a =	37	%
P_a =	14.65	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3344 CONDITION 3344

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.50		1.52	2.50	THRUST,IDL	LB	27.6	48.7	N	122.8	216.5
TEMP	(R)	705.8	1089.0	(K)	392.1	605.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.047	KG/M3	1.020	0.752	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	976.8	1741.0	M/S	297.7	530.7	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.4	70.7	74.4	76.1	74.9	73.1	74.2	76.4	80.0	93.1
.125	72.1	74.3	77.0	76.4	75.2	76.0	76.8	78.3	81.7	94.8
.160	72.5	76.0	77.8	78.6	77.7	77.1	77.0	80.4	85.0	96.6
.200	75.7	78.0	78.9	81.3	80.1	80.6	82.8	82.4	85.0	99.1
.250	78.5	81.6	82.6	82.9	84.1	85.0	83.7	87.8	89.7	102.6
.315	82.4	85.3	85.1	84.9	85.0	84.6	85.4	87.5	92.8	104.3
.400	86.6	85.4	84.7	85.1	84.2	84.6	88.0	89.8	94.8	105.4
.500	86.1	85.0	84.8	85.2	86.2	88.4	91.5	94.4	97.0	107.9
.630	84.8	86.7	86.8	87.7	89.0	90.7	92.5	95.1	99.5	109.6
.800	87.6	88.1	88.9	90.7	91.9	91.9	93.6	97.5	101.1	111.5
1.00	87.9	87.1	88.3	90.1	91.3	92.4	94.8	98.2	101.4	111.8
1.25	87.6	89.1	89.9	91.8	92.7	94.1	96.3	99.4	101.4	112.9
1.60	88.9	89.6	90.6	92.4	94.1	95.0	97.5	99.8	100.9	113.5
2.00	89.7	90.5	91.1	92.9	94.7	96.3	98.8	100.7	100.8	114.3
2.50	91.4	91.4	91.8	94.0	95.6	97.0	99.7	101.0	100.2	114.9
3.15	91.2	91.9	92.6	94.7	96.4	98.4	100.8	101.0	99.8	115.6
4.00	92.7	92.9	93.5	95.5	97.7	100.0	101.7	101.9	100.2	116.6
5.00	93.5	94.3	94.4	96.8	98.7	101.5	103.0	102.4	100.5	117.7
6.30	93.6	94.1	95.1	97.3	99.3	102.0	103.4	102.4	100.8	118.0
8.00	94.7	94.9	95.8	98.0	100.6	103.2	103.9	103.4	101.6	118.9
10.0	95.0	95.6	96.3	98.3	100.9	103.1	104.4	103.9	101.9	119.3
12.5	94.8	95.5	96.4	98.8	101.3	103.1	104.5	103.8	102.3	119.4
16.0	95.4	95.8	96.6	99.1	101.7	103.4	105.3	104.1	102.5	119.8
20.0	95.4	95.8	96.3	98.5	101.3	102.7	105.3	103.6	102.2	119.5
25.0	96.2	97.2	96.6	98.9	101.9	102.5	105.7	104.4	102.8	120.0
31.5	102.8	100.1	97.8	98.7	101.1	102.1	106.6	104.2	101.8	120.5
40.0	103.9	102.9	100.4	99.2	100.7	101.5	106.0	103.2	100.8	120.7
50.0	102.1	102.5	102.1	101.3	100.5	101.1	102.7	101.6	99.9	120.0
63.0	101.2	101.5	101.7	102.2	101.7	101.1	98.5	99.9	99.3	119.5
80.0	102.2	101.4	101.1	101.9	102.1	101.3	94.6	98.7	99.2	119.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	111.0	110.6	110.2	111.3	112.8	114.1	116.1	115.5	114.7	OAPWL = 131.4

V_∞ =	101	fps
T_a =	67	°F
RH_a =	37	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3347 3347

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	67.0	67.1	70.4	72.4	71.9	70.8	71.6	74.8	79.4
125	67.7	70.7	73.5	73.3	72.3	73.6	74.5	77.0	81.5
160	68.0	72.1	74.0	74.9	74.5	74.1	74.7	79.7	84.5
200	71.3	73.9	75.0	77.5	76.7	77.7	80.0	80.1	84.6
250	74.2	77.4	78.8	79.1	80.6	81.5	81.3	86.4	87.0
315	77.6	80.6	81.2	81.3	81.7	81.6	82.8	86.4	93.1
400	81.2	80.8	80.6	81.3	81.1	81.9	85.6	88.3	94.7
500	81.2	80.7	81.1	81.6	82.6	85.2	88.9	92.1	94.7
630	80.1	82.2	82.8	84.1	85.4	87.6	89.8	93.2	98.3
800	83.1	84.0	84.7	86.7	88.2	88.8	90.8	95.4	98.5
1000	83.4	83.0	84.5	86.6	88.0	89.4	92.0	95.9	99.0
1250	83.1	85.1	85.9	88.0	89.2	91.1	93.5	96.6	98.1
1600	84.5	85.6	86.8	88.7	90.6	91.6	93.9	96.4	97.4
2000	85.3	86.2	87.1	89.2	91.0	92.9	95.0	96.9	96.3
2500	86.5	86.8	87.5	89.9	91.8	93.1	95.5	96.6	95.3
3150	86.5	87.4	88.5	90.6	92.5	94.3	96.3	96.3	94.6
4000	87.4	88.0	88.9	91.2	93.5	95.3	96.6	96.6	93.9
5000	88.0	89.2	89.7	92.2	94.2	96.1	97.2	96.2	93.9
6300	87.8	88.7	90.2	92.4	94.4	96.3	97.2	95.8	93.7
8000	88.6	89.0	90.4	92.8	95.2	97.1	97.4	96.3	93.6
10000	88.6	89.5	90.6	92.9	95.3	97.0	97.4	96.3	93.4
12500	88.1	89.3	90.5	93.1	95.4	97.0	97.5	95.9	93.6
16000	88.3	89.4	90.5	93.1	95.7	97.2	97.8	95.5	93.3
20000	87.8	88.7	89.8	92.4	95.0	96.3	97.8	94.3	92.0
25000	87.3	88.5	89.5	92.1	95.0	95.7	97.9	94.0	91.2
31500	86.6	88.0	89.0	91.4	94.0	94.6	98.5	92.4	89.5
40000	86.5	87.6	88.9	90.9	93.3	93.6	97.4	91.2	88.3
50000	86.3	87.0	88.3	91.0	92.2	92.8	94.0	89.5	86.8
63000	85.6	86.8	88.0	90.1	92.0	91.9	88.9	88.3	85.5
80000	85.7	86.0	87.5	89.4	91.1	91.1	84.0	87.2	84.4
TSPL	100.2	101.1	102.2	104.5	106.6	108.0	109.4	108.7	108.8
SSPL	100.1	101.0	102.1	104.4	106.6	107.9	109.4	108.6	108.4

V_∞ =	102	fps
T_a =	73	°F
RH_a =	22	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3347 3347

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	100.6	101.3	102.2	104.3	106.3	107.4	108.7	107.9	108.0
SSPL	100.5	101.2	102.1	104.3	106.2	107.4	108.7	107.8	107.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	100.8	101.4	102.2	104.2	106.0	107.1	108.2	107.3	107.4
SSPL	100.7	101.3	102.1	104.1	106.0	107.0	108.2	107.2	107.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3347 3347

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	67.7	67.5	70.5	72.2	71.2	69.9	70.2	72.4	76.1
125	68.4	71.2	73.6	73.0	71.7	72.7	73.1	74.8	78.2
160	68.7	72.6	74.1	74.7	73.9	73.2	73.2	76.9	81.3
200	72.0	74.4	75.1	77.2	76.1	76.7	78.6	78.4	81.0
250	74.8	77.8	78.9	78.8	80.0	80.6	79.9	84.0	85.8
315	78.2	81.0	81.2	81.0	81.1	80.6	81.3	83.8	88.9
400	81.9	81.1	80.6	81.0	80.5	80.9	84.0	86.0	90.5
500	81.9	81.0	81.1	81.3	82.1	84.2	87.3	90.0	92.4
630	80.8	82.6	82.9	83.9	84.9	86.6	88.3	90.8	94.8
800	83.8	84.4	84.8	86.5	87.7	87.9	89.2	92.9	96.1
1000	84.1	83.4	84.6	86.4	87.5	88.4	90.4	93.6	96.5
1250	83.8	85.5	86.0	87.8	88.7	90.1	92.0	94.6	96.3
1600	85.2	86.0	86.9	88.5	90.1	90.7	92.4	94.6	95.8
2000	86.0	86.6	87.2	89.0	90.5	92.0	93.6	95.3	95.4
2500	87.2	87.2	87.6	89.8	91.3	92.2	94.1	95.2	94.7
3150	87.1	87.7	88.5	90.4	91.9	93.3	94.9	95.1	94.0
4000	88.0	88.3	89.0	91.0	93.0	94.3	95.3	95.5	93.7
5000	88.6	89.6	89.8	92.0	93.7	95.1	96.0	95.3	93.5
6300	88.5	89.1	90.3	92.2	93.9	95.4	96.0	94.9	93.1
8000	89.3	89.4	90.5	92.7	94.7	96.2	96.3	95.4	93.4
10000	89.3	89.9	90.7	92.7	94.8	96.1	96.3	95.4	93.3
12500	88.7	89.7	90.6	92.9	94.9	96.0	96.3	95.0	93.1
16000	89.0	89.8	90.6	92.9	95.2	96.3	96.7	94.8	92.7
20000	88.4	89.1	89.9	92.2	94.5	95.3	96.7	93.9	91.3
25000	87.9	88.9	89.6	91.9	94.4	94.7	96.7	93.7	90.7
31500	87.2	88.4	89.1	91.2	93.5	93.6	97.3	92.6	88.8
40000	87.2	88.0	89.0	90.8	92.8	92.7	96.3	91.4	87.6
50000	87.0	87.4	88.4	90.8	91.7	91.9	93.0	89.3	86.2
63000	86.5	87.2	88.1	90.0	91.4	91.1	88.0	87.3	85.4
80000	86.3	86.4	87.6	89.2	90.5	90.3	83.3	85.4	84.7
TSPL	100.8	101.5	102.3	104.3	106.1	107.0	108.2	107.5	107.2
SSPL	100.7	101.4	102.2	104.2	106.0	107.0	108.1	107.4	107.0

V_∞ =	102	fps
T_a =	73	°F
RH_a =	22	%
P_a =	14.65	psia

STAND XARF RIG ID VT=102 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3347 CONDITION 3347

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.52	1.79		1.52	1.79	THRUST,IDL	LB	28.2	28.0	N	125.5	124.7
TEMP	(R)		739.5	1080.0	(K)	410.8	600.0	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.061	0.043	KG/M3	0.973	0.693	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS		998.3	1410.0	M/S	304.3	429.8	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	67.7	67.5	70.5	72.2	71.2	69.9	70.2	72.4	76.1	89.3
.125	68.4	71.2	73.6	73.0	71.7	72.7	73.1	74.8	78.2	91.4
.160	66.7	72.6	74.1	74.7	73.9	73.2	73.2	76.9	81.3	92.9
.200	72.0	74.4	75.1	77.2	76.1	76.7	78.6	78.4	81.0	95.1
.250	74.8	77.8	78.9	78.8	80.0	80.6	79.9	84.0	85.8	98.7
.315	76.2	81.0	81.2	81.0	81.1	80.6	81.3	83.8	88.9	100.3
.400	81.9	81.1	80.6	81.0	80.5	80.9	84.0	86.0	90.5	101.4
.500	81.9	81.0	81.1	81.3	82.1	84.2	87.3	90.0	92.4	103.6
.630	80.6	82.6	82.9	83.9	84.9	86.6	88.3	90.8	94.8	105.3
.800	83.8	84.4	84.8	86.5	87.7	87.9	89.2	92.9	96.1	107.1
1.00	84.1	83.4	84.6	86.4	87.5	88.4	90.4	93.6	96.5	107.4
1.25	83.8	85.5	86.0	87.8	88.7	90.1	92.0	94.6	96.3	108.5
1.60	85.2	86.0	86.9	88.5	90.1	90.7	92.4	94.6	95.8	108.9
2.00	86.0	86.6	87.2	89.0	90.5	92.0	93.6	95.3	95.4	109.5
2.50	87.2	87.2	87.6	89.8	91.3	92.2	94.1	95.2	94.7	109.8
3.15	87.1	87.7	88.5	90.4	91.9	93.3	94.9	95.1	94.0	110.3
4.00	88.0	88.3	89.0	91.0	93.0	94.3	95.3	95.5	93.7	110.9
5.00	88.6	89.6	89.8	92.0	93.7	95.1	96.0	95.3	93.5	111.5
6.30	88.5	89.1	90.3	92.2	93.9	95.4	96.0	94.9	93.1	111.6
8.00	89.3	89.4	90.5	92.7	94.7	96.2	96.3	95.4	93.4	112.1
10.0	89.3	89.9	90.7	92.7	94.8	96.1	96.3	95.4	93.3	112.1
12.5	88.7	89.7	90.6	92.9	94.9	96.0	96.3	95.0	93.1	112.1
16.0	89.0	89.8	90.6	92.9	95.2	96.3	96.7	94.8	92.7	112.3
20.0	88.4	89.1	89.9	92.2	94.5	95.3	96.7	93.9	91.3	111.6
25.0	87.9	88.9	89.6	91.9	94.4	94.7	96.7	93.7	90.7	111.4
31.5	87.2	88.4	89.1	91.2	93.5	93.6	97.3	92.6	88.8	110.9
40.0	87.2	88.0	89.0	90.8	92.8	92.7	96.3	91.4	87.6	110.1
50.0	87.0	87.4	88.4	90.8	91.7	91.9	93.0	89.3	86.2	108.7
63.0	86.5	87.2	88.1	90.0	91.4	91.1	88.0	87.3	85.4	107.4
80.0	86.3	86.4	87.6	89.2	90.5	90.3	83.3	85.4	84.7	106.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	100.8	101.5	102.3	104.3	106.1	107.0	108.2	107.5	107.2	

OAPWL = 123.8

V_∞ =	102	fps
T_a =	73	°F
RH_a =	22	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/05/76 -00 000000 XARF 0 3348 3348

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	72.8	78.4	78.6	70.6	74.0	67.3	78.8	84.6	87.7
125	72.6	77.1	71.0	72.7	72.5	72.7	78.6	83.3	86.2
160	71.4	74.9	70.0	71.5	72.4	72.3	77.0	82.8	77.2
200	70.7	73.7	70.7	75.1	74.6	75.5	75.6	81.8	80.1
250	74.5	76.8	75.4	76.6	78.0	79.0	77.0	80.1	83.1
315	76.7	79.3	78.1	78.2	78.3	78.3	78.8	81.7	89.8
400	78.8	79.2	76.7	78.1	78.2	78.7	82.1	84.1	91.6
500	78.2	78.0	77.6	78.5	79.4	81.8	84.8	88.4	91.5
630	78.3	80.0	79.7	81.0	82.2	84.3	86.3	89.4	93.9
800	80.5	80.5	81.2	83.0	84.5	85.4	87.7	91.2	94.4
1000	80.9	81.2	81.3	83.1	84.8	86.2	88.4	91.8	93.9
1250	81.1	82.7	82.7	85.0	86.4	87.7	89.8	92.3	92.9
1600	82.0	83.1	83.8	85.7	87.4	88.4	90.6	92.4	92.2
2000	82.6	83.6	84.2	86.3	88.1	89.7	91.9	93.0	91.3
2500	84.0	84.4	84.9	87.2	88.9	90.2	92.3	92.9	90.3
3150	83.9	84.9	85.9	88.0	90.0	91.4	93.2	92.4	89.4
4000	84.9	85.5	86.4	88.6	90.9	92.6	93.7	92.9	88.9
5000	86.0	86.9	87.4	90.0	91.8	93.7	94.6	92.8	88.8
6300	85.7	86.8	87.9	90.3	92.4	94.2	94.7	92.2	88.7
8000	86.8	87.1	88.5	90.8	93.2	95.0	94.9	92.7	88.6
10000	86.8	87.9	88.7	91.2	93.4	95.0	94.9	92.8	88.4
12500	86.4	87.7	88.8	91.5	93.7	94.9	94.9	92.2	88.3
16000	87.1	88.0	88.9	91.6	94.1	95.1	95.5	91.9	87.9
20000	86.3	87.3	88.5	91.0	93.4	94.2	95.4	90.7	86.6
25000	85.4	86.8	88.1	90.6	93.3	93.5	95.5	90.3	85.7
31500	85.2	86.3	87.5	89.9	92.1	92.6	96.1	89.0	84.4
40000	85.1	86.0	87.3	89.4	91.4	91.8	95.0	87.8	83.6
50000	85.0	85.8	87.0	89.4	90.8	91.0	91.5	86.7	82.5
63000	84.8	85.9	87.2	88.9	90.6	90.6	86.8	86.1	82.1
80000	85.4	86.0	87.5	89.4	90.7	90.5	82.7	86.0	82.1
TSPL	98.4	99.4	100.3	102.6	104.6	105.7	106.7	105.1	104.2
SSPL	98.3	99.2	100.2	102.5	104.6	105.7	106.7	104.9	103.6

V_∞ =	200	fps
T_a =	60	°F
RH_a =	68	%
P_a =	14.41	psia

DECK LD DATE ENG MOD ENG ND STND C OBS CORR
H631 315 05/05/76 -00 000000 XARF 0 3348 3348

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	99.3	99.9	100.5	102.4	104.1	104.8	105.4	103.6	103.5
SSPL	99.2	99.7	100.4	102.3	104.0	104.7	105.4	103.4	102.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	99.7	100.1	100.4	102.0	103.4	103.9	104.4	102.5	102.0
SSPL	99.6	99.9	100.3	102.0	103.4	103.9	104.4	102.3	101.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG ND STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3348 3348

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	74.1	79.4	77.9	69.8	72.7	65.5	73.9	80.0	83.7
125	73.9	77.6	70.7	72.1	71.3	70.7	74.9	78.9	82.2
160	72.7	75.4	69.8	71.0	71.3	70.4	73.5	78.7	79.1
200	72.0	74.3	70.9	74.6	73.4	73.7	72.9	76.9	79.4
250	75.8	77.4	75.4	76.1	76.8	77.2	74.9	75.9	78.8
315	78.0	80.0	78.0	77.6	77.1	76.5	76.3	77.2	82.0
400	80.1	79.7	76.7	77.5	77.0	76.8	79.1	80.2	84.2
500	79.5	78.6	77.7	77.9	78.3	79.8	81.8	84.3	87.3
630	79.6	80.7	79.8	80.5	81.1	82.3	83.5	85.2	88.6
800	81.8	81.2	81.4	82.6	83.3	83.5	84.8	87.0	90.0
1000	82.2	81.9	81.4	82.7	83.6	84.3	85.5	87.8	90.3
1250	82.4	83.4	82.9	84.5	85.2	85.8	87.0	88.8	90.3
1600	83.3	83.8	84.0	85.3	86.3	86.5	87.9	89.3	90.1
2000	84.0	84.3	84.5	85.9	87.0	87.8	89.2	90.3	90.1
2500	85.3	85.1	85.1	86.8	87.8	88.3	89.7	90.5	89.7
3150	85.2	85.7	86.2	87.6	88.8	89.5	90.7	90.5	88.9
4000	86.2	86.3	86.6	88.2	89.8	90.7	91.3	91.1	89.1
5000	87.3	87.6	87.6	89.6	90.7	91.8	92.4	91.4	88.9
6300	87.0	87.5	88.2	89.9	91.3	92.3	92.6	91.1	88.4
8000	88.1	87.9	88.8	90.4	92.1	93.2	92.9	91.5	88.7
10000	88.1	88.6	88.9	90.8	92.3	93.2	92.9	91.5	88.7
12500	87.7	88.4	89.1	91.1	92.5	93.0	92.9	91.1	88.2
16000	88.4	88.7	89.2	91.2	93.0	93.3	93.5	91.3	87.8
20000	87.6	88.0	88.8	90.6	92.3	92.3	93.3	90.6	86.5
25000	86.8	87.6	88.3	90.2	92.1	91.6	93.3	90.4	85.9
31500	86.5	87.0	87.8	89.5	90.9	90.7	93.7	90.0	84.4
40000	86.4	86.8	87.6	89.0	90.3	89.9	92.7	88.8	83.3
50000	86.4	86.5	87.3	89.0	89.6	89.2	89.6	86.6	82.5
63000	86.1	86.7	87.4	88.5	89.5	89.0	85.4	84.1	82.3
80000	86.7	86.7	87.8	88.9	89.5	89.0	81.7	82.1	82.6
TSPL	99.7	100.1	100.5	102.2	103.5	103.9	104.5	103.3	102.1
SSPL	99.6	99.9	100.4	102.1	103.5	103.8	104.5	103.2	101.8

V_∞ =	200	fps
T_a =	60	°F
RH_a =	68	%
P_a =	14.41	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3348 CONDITION 3348

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.80		1.53	1.80	THRUST,IDL	LB	28.6	25.5	N	127.0	113.5
TEMP	(R)	685.5	1073.7	(K)	380.8	596.5	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.066	0.044	KG/M3	1.052	0.699	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	967.7	1416.0	M/S	295.0	431.6	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	74.1	79.4	77.9	69.8	72.7	65.5	73.9	80.0	83.7	95.2
.125	73.9	77.6	70.7	72.1	71.3	70.7	74.9	78.9	82.2	93.6
.160	72.7	75.4	69.8	71.0	71.3	70.4	73.5	78.7	79.1	92.3
.200	72.0	74.3	70.9	74.6	73.4	73.7	72.9	76.9	79.4	92.6
.250	75.8	77.4	75.4	76.1	76.8	77.2	74.9	75.9	78.8	94.8
.315	78.0	80.0	78.0	77.6	77.1	76.5	76.3	77.2	82.0	96.4
.400	80.1	79.7	76.7	77.5	77.0	76.8	79.1	80.2	84.2	97.1
.500	79.5	78.6	77.7	77.9	78.3	79.8	81.8	84.3	87.3	99.0
.630	79.6	80.7	79.8	80.5	81.1	82.3	83.5	85.2	88.6	100.7
.800	81.8	81.2	81.4	82.6	83.3	83.5	84.8	87.0	90.0	102.3
1.00	82.2	81.9	81.4	82.7	83.6	84.3	85.5	87.8	90.3	102.8
1.25	82.4	83.4	82.9	84.5	85.2	85.8	87.0	88.8	90.3	104.0
1.60	83.3	83.8	84.0	85.3	86.3	86.5	87.9	89.3	90.1	104.7
2.00	84.0	84.3	84.5	85.9	87.0	87.8	89.2	90.3	90.1	105.5
2.50	85.3	85.1	85.1	86.8	87.8	88.3	89.7	90.5	89.7	106.0
3.15	85.2	85.7	86.2	87.6	88.8	89.5	90.7	90.5	88.9	106.7
4.00	86.2	86.3	86.6	88.2	89.8	90.7	91.3	91.1	89.1	107.5
5.00	87.3	87.6	87.6	89.6	90.7	91.8	92.4	91.4	88.9	108.4
6.30	87.0	87.5	88.2	89.9	91.3	92.3	92.6	91.1	88.4	108.7
8.00	88.1	87.9	88.8	90.4	92.1	93.2	92.9	91.5	88.7	109.3
10.0	88.1	88.6	88.9	90.8	92.3	93.2	92.9	91.5	88.7	109.4
12.5	87.7	88.4	89.1	91.1	92.5	93.0	92.9	91.1	88.2	109.4
16.0	88.4	88.7	89.2	91.2	93.0	93.3	93.5	91.3	87.8	109.7
20.0	87.6	88.0	88.8	90.6	92.3	92.3	93.3	90.6	86.5	109.1
25.0	86.8	87.6	88.3	90.2	92.1	91.6	93.3	90.4	85.9	108.8
31.5	86.5	87.0	87.8	89.5	90.9	90.7	93.7	90.0	84.4	108.3
40.0	86.4	86.8	87.6	89.0	90.3	89.9	92.7	88.8	83.3	107.6
50.0	86.4	86.5	87.3	89.0	89.6	89.2	89.6	86.6	82.5	106.5
63.0	86.1	86.7	87.4	88.5	89.5	89.0	85.4	84.1	82.3	105.8
80.0	86.7	86.7	87.8	88.9	89.5	89.0	81.7	82.1	82.6	105.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	99.7	100.1	100.5	102.2	103.5	103.9	104.5	103.3	102.1	OAPWL = 120.8

V_∞ =	200	fps
T_a =	60	°F
RH_a =	68	%
P_a =	14.41	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3352 3352

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	62.0	61.2	66.0	67.6	67.0	66.6	66.7	69.2	74.0
125	62.9	65.7	69.1	68.8	67.8	69.3	70.1	71.9	76.5
160	64.0	67.7	70.1	71.0	70.8	70.0	70.3	74.7	80.0
200	67.2	69.5	71.1	73.7	72.7	73.2	75.7	75.8	80.2
250	70.0	73.2	74.6	74.8	76.3	77.4	76.8	81.7	82.4
315	73.3	76.5	77.0	77.2	77.4	77.3	78.4	81.9	88.6
400	77.0	76.8	76.4	77.4	77.0	77.5	80.9	83.6	90.3
500	77.1	76.6	76.9	77.5	78.5	81.1	84.1	87.5	89.9
630	76.1	78.3	78.7	79.9	81.0	83.1	84.8	88.3	94.0
800	79.2	79.7	80.4	82.1	83.5	83.9	85.7	90.3	94.1
1000	79.3	78.8	80.2	81.9	83.3	84.6	86.8	90.6	94.6
1250	79.0	80.3	81.2	83.2	84.7	86.1	87.8	91.0	94.0
1600	80.0	80.9	81.7	83.8	85.6	86.5	88.3	91.0	93.1
2000	80.3	81.2	82.0	83.9	85.8	87.3	88.9	91.3	92.2
2500	81.2	81.5	82.0	84.7	86.3	87.1	89.0	91.0	90.9
3150	80.9	81.7	82.7	84.8	86.6	87.8	89.4	90.5	89.6
4000	81.5	81.9	82.7	84.9	86.7	88.0	89.0	90.3	87.9
5000	81.9	82.6	82.9	85.3	86.5	88.0	89.1	88.9	86.6
6300	81.7	82.2	83.1	85.0	86.3	87.4	88.2	87.5	84.8
8000	83.2	82.9	83.6	85.4	86.7	87.4	87.7	86.6	82.9
10000	83.3	83.5	83.6	84.9	86.1	86.6	86.8	85.3	81.1
12500	82.5	83.0	83.2	84.8	86.0	86.0	86.4	83.9	80.0
16000	82.2	82.6	82.8	85.2	86.5	85.6	85.7	82.3	78.7
20000	82.7	83.0	83.6	84.8	85.9	84.7	84.9	80.7	76.5
25000	82.9	83.5	83.8	85.0	86.0	84.3	84.6	79.8	75.4
31500	83.0	83.1	83.8	84.3	85.6	83.5	85.2	78.5	73.8
40000	83.1	83.5	83.4	84.9	85.0	83.1	84.7	77.6	73.3
50000	82.7	82.9	83.3	84.1	83.8	81.9	81.5	76.6	72.5
63000	81.4	82.1	82.5	83.3	83.3	81.2	77.1	76.0	71.9
80000	80.5	80.6	81.3	82.1	82.3	80.4	71.6	74.9	71.0
TSPL	95.2	95.7	96.2	97.8	99.0	99.3	100.4	101.6	103.4
SSPL	95.1	95.5	96.0	97.7	98.9	99.2	100.3	101.4	102.9

V_∞ =	102	fps
T_a =	72	°F
RHa =	22	%
P_a =	14.65	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3352	3352

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	95.6	95.9	96.3	97.7	98.7	98.8	99.7	100.7	102.6
SSPL	95.5	95.8	96.1	97.5	98.5	98.7	99.6	100.6	102.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	95.9	96.0	96.2	97.5	98.4	98.4	99.2	100.2	101.9
SSPL	95.8	95.9	96.1	97.4	98.3	98.3	99.1	100.0	101.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/05/76		-00 000000	XARF 0 3352	3352

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	62.6	61.6	66.2	67.3	66.4	65.7	65.4	67.0	70.6
125	63.6	66.2	69.2	68.5	67.2	68.4	68.8	69.8	73.1
160	64.7	68.2	70.2	70.7	70.1	69.1	68.9	72.0	76.5
200	67.9	69.9	71.2	73.5	72.1	72.3	74.3	74.1	76.7
250	70.6	73.7	74.6	74.5	75.7	76.5	75.4	79.3	81.2
315	74.0	76.9	77.0	76.9	76.8	76.4	77.0	79.3	84.4
400	77.6	77.1	76.4	77.1	76.4	76.5	79.3	81.2	86.0
500	77.7	76.9	76.9	77.2	78.0	80.1	82.5	85.3	87.7
630	76.7	78.7	78.8	79.7	80.5	82.1	83.3	85.8	90.3
800	79.9	80.1	80.5	81.9	82.9	83.0	84.2	87.8	91.4
1000	80.0	79.2	80.3	81.7	82.8	83.6	85.3	88.2	91.7
1250	79.7	80.7	81.3	83.0	84.2	85.2	86.3	88.8	91.5
1600	80.7	81.3	81.8	83.6	85.1	85.6	86.9	89.0	91.0
2000	81.0	81.6	82.1	83.7	85.3	86.4	87.5	89.5	90.7
2500	81.9	81.9	82.1	84.6	85.8	86.2	87.6	89.4	89.8
3150	81.5	82.0	82.7	84.6	86.0	86.8	88.0	89.0	88.7
4000	82.1	82.2	82.8	84.7	86.1	87.0	87.7	88.9	87.7
5000	82.5	82.9	83.0	85.1	85.9	87.0	87.8	87.8	86.2
6300	82.4	82.6	83.2	84.8	85.8	86.5	87.0	86.5	84.6
8000	83.9	83.3	83.7	85.2	86.2	86.5	86.6	85.8	83.2
10000	84.0	83.8	83.6	84.7	85.5	85.7	85.7	84.6	81.5
12500	83.1	83.3	83.2	84.5	85.4	85.1	85.3	83.4	80.1
16000	82.9	82.9	82.9	85.0	85.9	84.7	84.7	81.9	78.6
20000	83.3	83.3	83.6	84.6	85.3	83.8	83.9	80.5	76.6
25000	83.5	83.8	83.8	84.7	85.3	83.4	83.6	79.7	75.6
31500	83.6	83.4	83.8	84.0	85.0	82.6	84.2	78.9	73.9
40000	83.6	83.9	83.5	84.7	84.4	82.3	83.8	78.1	73.2
50000	83.3	83.2	83.4	83.8	83.1	81.1	80.6	76.6	72.5
63000	82.1	82.5	82.5	83.0	82.7	80.4	76.3	75.1	72.3
80000	81.1	80.9	81.3	81.8	81.6	79.8	71.0	73.1	71.8
TSPL	95.9	96.0	96.3	97.6	98.4	98.4	99.1	99.9	101.1
SSPL	95.7	95.9	96.1	97.4	98.3	98.3	99.0	99.7	100.8

V_∞ =	102	fps
T_a =	72	°F
RH_a =	22	%
P_a =	14.65	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=102 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3352 CONDITION 3352

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	1.31		1.53	1.31	THRUST,IDL	LB	28.7	11.6	N	127.7	51.4
TEMP	(R)	731.2	1033.7	(K)	406.2	574.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.042	KG/M3	0.987	0.666	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	1005.0	954.2	M/S	306.3	290.8	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.6	61.6	66.2	67.3	66.4	65.7	65.4	67.0	70.6	84.4
.125	63.6	66.2	69.2	68.5	67.2	68.4	68.8	69.8	73.1	86.8
.160	64.7	68.2	70.2	70.7	70.1	69.1	68.9	72.0	76.5	88.6
.200	67.9	69.9	71.2	73.5	72.1	72.3	74.3	74.1	76.7	90.9
.250	70.6	73.7	74.6	74.5	75.7	76.5	75.4	79.3	81.2	94.3
.315	74.0	76.9	77.0	76.9	76.8	76.4	77.0	79.3	84.4	96.0
.400	77.6	77.1	76.4	77.1	76.4	76.5	79.3	81.2	86.0	97.0
.500	77.7	76.9	76.9	77.2	78.0	80.1	82.5	85.3	87.7	99.1
.630	76.7	76.7	78.8	79.7	80.5	82.1	83.3	85.8	90.3	100.7
.800	79.9	80.1	80.5	81.9	82.9	83.0	84.2	87.8	91.4	102.3
1.00	80.0	79.2	80.3	81.7	82.8	83.6	85.3	88.2	91.7	102.5
1.25	79.7	80.7	81.3	83.0	84.2	85.2	86.3	88.8	91.5	103.4
1.60	80.7	81.3	81.8	83.6	85.1	85.6	86.9	89.0	91.0	103.7
2.00	81.6	81.6	82.1	83.7	85.3	86.4	87.5	89.5	90.7	104.1
2.50	81.9	81.9	82.1	84.6	85.8	86.2	87.6	89.4	89.8	104.1
3.15	81.5	82.0	82.7	84.6	86.0	86.8	88.0	89.0	88.7	104.2
4.00	82.1	82.2	82.8	84.7	86.1	87.0	87.7	88.9	87.7	104.1
5.00	82.5	82.9	83.0	85.1	85.9	87.0	87.8	87.8	86.2	104.0
6.30	82.4	82.6	83.2	84.8	85.8	86.5	87.0	86.5	84.6	103.4
8.00	83.9	83.3	83.7	85.2	86.2	86.5	86.6	85.8	83.2	103.5
10.0	84.0	83.6	83.6	84.7	85.5	85.7	85.7	84.6	81.5	103.0
12.5	83.1	83.3	83.2	84.5	85.4	85.1	85.3	83.4	80.1	102.5
16.0	82.9	82.9	82.9	85.0	85.9	84.7	84.7	81.9	78.6	102.3
20.0	83.3	83.3	83.6	84.6	85.3	83.8	83.9	80.5	76.6	102.0
25.0	83.5	83.8	83.8	84.7	85.3	83.4	83.6	79.7	75.6	102.0
31.5	83.6	83.4	83.8	84.0	85.0	82.6	84.2	78.9	73.9	101.7
40.0	83.8	83.9	83.5	84.7	84.4	82.3	83.8	78.1	73.2	101.7
50.0	83.3	83.2	83.4	83.8	83.1	81.1	80.6	76.6	72.5	100.6
63.0	82.1	82.5	82.5	83.0	82.7	80.4	76.3	75.1	72.3	99.7
80.0	81.1	80.9	81.3	81.8	81.6	79.8	71.0	73.1	71.8	98.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.9	96.0	96.3	97.6	98.4	98.4	99.1	99.9	101.1	OAPWL = 116.3

V_∞ =	102	fps
T_a =	72	°F
RH_a =	22	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3353 3353

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	83.6	85.1	71.4	79.5	70.6	68.6	78.4	84.1	88.5
125	82.0	82.9	74.1	67.1	69.1	69.3	77.9	82.9	86.6
160	80.2	81.6	72.5	68.4	69.5	70.6	76.3	82.3	76.4
200	79.4	80.1	70.7	71.9	71.7	71.6	67.4	80.6	77.5
250	79.0	80.4	74.5	73.1	74.5	75.7	72.0	82.0	80.9
315	78.1	80.4	75.8	74.7	74.4	75.0	74.1	72.6	86.5
400	78.6	79.6	74.4	74.4	74.4	75.3	77.9	78.7	88.3
500	77.9	78.8	74.7	74.8	75.8	78.2	80.6	84.1	88.3
630	77.1	78.9	76.5	77.4	78.5	80.5	82.3	85.0	90.6
800	78.3	78.7	77.7	79.3	80.6	81.5	83.2	87.0	91.2
1000	78.2	78.4	77.5	79.2	80.9	81.9	83.6	87.4	90.7
1250	77.8	79.3	78.8	81.0	82.2	83.4	84.9	87.9	89.9
1600	78.6	79.4	79.6	81.4	83.1	83.9	85.4	87.6	89.2
2000	78.6	79.4	79.7	81.6	83.5	84.8	86.2	88.1	88.3
2500	79.7	79.9	80.1	82.4	83.9	84.5	86.3	87.8	87.0
3150	79.4	80.1	80.7	82.5	84.2	85.3	86.5	87.1	85.8
4000	80.0	80.3	80.9	82.6	84.6	85.7	86.4	87.0	84.3
5000	80.6	81.3	81.3	83.3	84.7	85.9	86.5	85.8	82.9
6300	80.8	81.2	81.9	83.4	84.7	85.2	85.8	84.2	81.6
8000	83.1	82.6	83.0	84.6	85.4	85.6	85.3	83.7	80.1
10000	83.2	83.2	83.1	84.1	84.9	84.9	84.5	82.4	78.5
12500	83.1	83.3	83.1	84.2	85.1	84.7	84.2	81.2	77.9
16000	82.7	82.7	82.7	84.8	85.7	84.4	83.5	79.8	76.4
20000	82.9	82.9	83.4	84.5	84.8	83.5	83.0	78.0	74.5
25000	83.3	83.8	83.8	84.8	85.4	83.3	83.0	77.7	74.3
31500	83.9	83.6	84.0	84.3	84.8	82.7	83.9	76.3	72.9
40000	83.8	83.8	83.6	84.5	84.2	82.2	83.1	75.7	72.5
50000	83.1	82.4	82.6	83.5	82.8	80.7	79.4	74.6	70.8
63000	81.7	81.4	81.7	82.3	82.1	79.9	74.5	73.9	68.8
80000	79.3	78.8	80.2	80.9	80.7	79.0	67.2	72.5	72.6
TSPL	95.9	96.3	95.3	96.6	97.4	97.3	98.0	98.8	100.5
SSPL	94.9	95.1	95.1	96.4	97.3	97.2	97.8	98.2	99.4

V_∞ =	202	fps
T_a =	65	°F
RH_a =	25	%
P_a =	14.41	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	96.8	96.9	95.5	96.4	96.8	96.4	96.7	97.3	99.8
SSPL	95.8	95.6	95.3	96.2	96.7	96.3	96.5	96.7	98.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	97.2	97.0	95.4	96.1	96.2	95.5	95.7	96.3	98.3
SSPL	96.2	95.8	95.2	95.9	96.1	95.4	95.5	95.6	97.2

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3353 3353

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	84.9	85.0	71.2	78.7	69.2	66.6	73.9	79.3	83.6
125	83.3	83.0	72.9	66.3	68.0	67.2	73.7	78.4	82.1
160	81.5	81.7	71.5	67.7	68.3	68.6	72.6	78.2	78.5
200	80.7	80.3	70.2	71.4	70.5	70.0	64.9	72.7	78.4
250	80.3	80.7	73.9	72.5	73.4	74.0	69.8	75.3	80.1
315	79.4	80.9	75.3	74.0	73.2	73.2	72.2	69.3	74.4
400	79.9	80.0	74.1	73.6	73.2	73.4	75.1	75.1	79.4
500	79.3	79.2	74.4	74.2	74.7	76.3	77.7	79.9	83.3
630	78.4	79.5	76.4	76.8	77.4	78.6	79.5	80.9	84.6
800	79.7	79.3	77.8	78.9	79.5	79.7	80.4	82.6	86.2
1000	79.5	79.0	77.6	78.8	79.7	80.1	80.8	83.0	86.3
1250	79.1	80.0	79.0	80.6	81.0	81.5	82.2	84.0	86.3
1600	79.9	80.0	79.7	81.0	81.9	82.0	82.7	84.1	85.8
2000	79.9	80.1	79.9	81.1	82.3	82.9	83.6	84.9	85.9
2500	81.0	80.5	80.3	82.0	82.8	82.7	83.7	84.8	85.2
3150	80.8	80.8	80.9	82.1	83.1	83.5	84.1	84.6	84.3
4000	81.4	81.0	81.1	82.2	83.5	83.8	84.0	84.5	83.7
5000	81.9	82.0	81.5	82.9	83.5	84.0	84.2	83.8	82.3
6300	82.1	81.9	82.0	82.9	83.5	83.4	83.6	82.6	80.7
8000	84.4	83.2	83.2	84.1	84.2	83.9	83.3	82.2	79.9
10000	84.5	83.8	83.1	83.6	83.7	83.1	82.5	81.0	78.5
12500	84.4	84.0	83.2	83.7	83.9	82.9	82.3	80.2	77.4
16000	84.0	83.3	82.9	84.3	84.5	82.7	81.7	79.0	75.9
20000	84.2	83.6	83.5	83.9	83.6	81.8	81.2	77.8	74.0
25000	84.6	84.5	83.8	84.2	84.1	81.6	81.2	77.6	73.6
31500	85.2	84.3	84.0	83.7	83.5	81.0	82.0	77.3	72.0
40000	85.1	84.4	83.7	83.9	83.0	80.5	81.3	76.6	71.5
50000	84.4	83.0	82.7	82.9	81.5	79.1	77.7	74.4	70.5
63000	83.0	82.0	81.8	81.7	80.8	78.4	73.3	71.8	69.7
80000	80.6	79.5	80.3	80.3	79.5	77.7	66.8	67.2	70.6
TSPL	97.2	96.8	95.4	96.1	96.2	95.6	95.7	95.8	96.8
SSPL	96.2	95.7	95.2	95.9	96.1	95.4	95.5	95.4	96.1

V_∞ =	202	fps
T_a =	65	°F
RH_a =	25	%
P_a =	14.41	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10,2049

STAND XARF RIG ID VT=202 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3353 CONDITION 3353

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.56	1.30		1.56	1.30	THRUST,IDL	LB	30.0	12.0	N	133.6	53.6
TEMP	(R)	737.5	1024.7	(K)	409.7	569.3	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.061	0.042	KG/M3	0.983	0.671	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	1029.0	946.2	M/S	313.6	288.4	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	84.9	85.0	71.2	78.7	69.2	66.6	73.9	79.3	83.6	98.3
.125	83.3	83.0	72.9	66.3	68.0	67.2	73.7	78.4	82.1	96.3
.160	81.5	81.7	71.5	67.7	68.3	68.6	72.6	78.2	78.5	95.0
.200	80.7	80.3	70.2	71.4	70.5	70.0	64.9	72.7	78.4	93.7
.250	80.3	80.7	73.9	72.5	73.4	74.0	69.8	75.3	80.1	94.8
.315	79.4	80.9	75.3	74.0	73.2	73.2	72.2	69.3	74.4	94.4
.400	79.9	80.0	74.1	73.8	73.2	73.4	75.1	75.1	79.4	94.7
.500	79.3	79.2	74.4	74.2	74.7	76.3	77.7	79.9	83.3	96.0
.630	78.4	79.5	76.4	76.8	77.4	78.6	79.5	80.9	84.6	97.3
.800	79.7	79.3	77.8	78.9	79.5	79.7	80.4	82.6	86.2	98.6
1.00	79.5	79.0	77.6	78.8	79.7	80.1	80.8	83.0	86.3	98.7
1.25	79.1	80.0	79.0	80.6	81.0	81.5	82.2	84.0	86.3	99.8
1.60	79.9	80.0	79.7	81.0	81.9	82.0	82.7	84.1	85.8	100.1
2.00	79.9	80.1	79.9	81.1	82.3	82.9	83.6	84.9	85.9	100.6
2.50	81.0	80.5	80.3	82.0	82.8	82.7	83.7	84.8	85.2	100.8
3.15	80.8	80.8	80.9	82.1	83.1	83.5	84.1	84.6	84.3	101.0
4.00	81.4	81.0	81.1	82.2	83.5	83.8	84.0	84.5	83.7	101.2
5.00	81.9	82.0	81.5	82.9	83.5	84.0	84.2	83.8	82.3	101.3
6.30	82.1	81.9	82.0	82.9	83.5	83.4	83.6	82.6	80.7	101.0
8.00	84.4	83.2	83.2	84.1	84.2	83.9	83.3	82.2	79.9	101.8
10.0	84.5	83.8	83.1	83.6	83.7	83.1	82.5	81.0	78.5	101.5
12.5	84.4	84.0	83.2	83.7	83.9	82.9	82.3	80.2	77.4	101.4
16.0	84.0	83.3	82.9	84.3	84.5	82.7	81.7	79.0	75.9	101.3
20.0	84.2	83.6	83.5	83.9	83.6	81.8	81.2	77.8	74.0	101.1
25.0	84.6	84.5	83.8	84.2	84.1	81.6	81.2	77.6	73.6	101.4
31.5	85.2	84.3	84.0	83.7	83.5	81.0	82.0	77.3	72.0	101.3
40.0	85.1	84.4	83.7	83.9	83.0	80.5	81.3	76.6	71.5	101.1
50.0	84.4	83.0	82.7	82.9	81.5	79.1	77.7	74.4	70.5	99.8
63.0	83.0	82.0	81.8	81.7	80.8	78.4	73.3	71.8	69.7	98.6
80.0	80.6	79.5	80.3	80.3	79.5	77.7	66.8	67.2	70.6	96.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	97.2	96.8	95.4	96.1	96.2	95.6	95.7	95.8	96.8	

OAPWL = 114.4

V_∞ =	202	fps
T_a =	65	°F
RH_a =	25	%
P_a =	14.41	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3359 3359

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.7	74.2	78.2	80.4	79.9	78.6	79.7	83.3	87.8
125	75.5	77.4	80.6	80.6	79.3	80.5	81.8	84.5	89.2
160	75.9	79.2	81.1	81.9	81.8	81.3	81.9	86.9	92.3
200	78.4	81.0	82.4	85.0	84.0	85.4	87.8	87.5	92.5
250	81.2	84.0	85.0	86.4	87.9	88.9	89.2	94.2	94.8
315	85.9	88.8	88.4	88.7	89.2	89.2	90.3	94.7	102.0
400	90.1	88.9	88.2	88.6	88.4	89.6	93.9	96.4	105.6
500	90.1	88.7	88.4	89.2	90.6	93.8	96.6	100.9	103.9
630	87.3	89.5	90.5	92.0	93.3	95.2	97.9	102.0	107.9
800	90.1	91.8	92.9	94.7	95.3	96.2	99.6	104.7	108.5
1000	90.3	89.9	91.6	93.5	95.3	97.4	101.0	105.4	109.0
1250	90.7	91.9	92.6	94.7	96.4	99.1	102.4	106.0	107.7
1600	92.0	92.8	93.7	96.0	98.2	99.8	103.5	106.3	106.5
2000	92.8	93.6	94.8	96.7	99.2	101.6	105.0	106.8	105.6
2500	94.5	94.9	95.4	97.7	99.4	102.5	105.8	106.6	104.9
3150	94.6	95.5	96.3	98.6	100.7	103.9	106.8	106.5	104.8
4000	96.0	96.3	97.2	99.9	102.4	105.8	107.6	107.8	104.9
5000	96.7	97.7	98.3	101.1	103.4	107.3	108.6	107.8	105.7
6300	96.8	97.6	99.0	101.6	104.3	107.9	108.9	108.3	106.9
8000	98.1	98.3	99.7	102.5	105.7	109.3	109.5	109.6	108.3
10000	98.7	99.3	100.3	103.2	106.1	109.5	110.2	110.8	109.9
12500	99.8	100.0	100.8	103.7	106.7	109.3	110.8	111.9	111.6
16000	104.9	103.0	102.3	104.5	107.2	109.8	111.4	112.7	111.6
20000	110.3	106.9	103.6	104.4	107.1	109.1	111.4	112.2	109.7
25000	110.3	110.2	106.7	105.5	107.8	108.8	111.1	111.9	108.4
31500	107.0	108.7	109.2	107.7	107.7	108.3	110.3	110.6	106.9
40000	108.1	107.4	108.3	109.7	109.2	108.4	109.6	110.0	106.6
50000	108.5	108.4	107.9	110.3	110.3	109.0	109.7	109.4	105.7
63000	106.0	108.7	108.8	109.6	111.1	109.7	109.7	109.4	105.6
80000	108.2	108.3	108.7	109.6	110.4	109.8	110.0	109.3	105.5
TSPL	117.9	117.6	117.2	118.2	119.5	120.7	122.1	122.7	121.6
SSPL	117.9	117.6	117.2	118.2	119.5	120.6	122.0	122.7	121.4

V_∞ =	102	fps
T_a =	79	°F
RH_a =	26	%
P_a =	14.65	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	118.3	117.8	117.2	118.1	119.2	120.1	121.4	121.8	120.8
SSPL	118.3	117.8	117.2	118.1	119.2	120.1	121.3	121.8	120.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	116.5	117.9	117.2	118.0	118.9	119.7	120.9	121.3	120.2
SSPL	116.5	117.9	117.2	118.0	118.9	119.7	120.8	121.3	120.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3359 3359

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	76.4	74.6	78.4	80.1	79.2	77.7	78.3	80.9	84.6
125	76.1	77.8	80.7	80.3	78.7	79.6	80.4	82.2	85.8
160	76.5	79.7	81.2	81.6	81.2	80.4	80.4	84.1	88.8
200	79.0	81.4	82.5	84.7	83.4	84.4	86.4	85.8	88.7
250	81.9	84.4	85.1	86.2	87.4	88.0	87.8	91.8	93.6
315	86.6	89.2	88.4	88.4	88.6	88.3	88.8	91.9	97.6
400	90.8	89.2	88.2	88.3	87.8	88.6	92.2	93.9	100.1
500	90.8	89.0	88.4	89.0	90.1	92.8	95.0	98.5	101.5
630	88.0	89.9	90.6	91.8	92.8	94.2	96.3	99.4	104.1
800	90.8	92.2	93.0	94.5	94.7	95.2	97.9	102.1	105.8
1000	91.0	90.3	91.7	93.3	94.8	96.4	99.3	103.0	106.4
1250	91.4	92.3	92.7	94.5	95.9	98.1	100.8	103.9	105.9
1600	92.7	93.2	93.8	95.9	97.7	98.8	101.9	104.5	105.3
2000	93.5	94.0	94.9	96.6	98.7	100.6	103.5	105.3	105.0
2500	95.2	95.3	95.5	97.6	99.0	101.5	104.4	105.3	104.4
3150	95.2	95.8	96.3	98.4	100.2	102.8	105.4	105.4	104.1
4000	96.6	96.6	97.3	99.7	101.9	104.8	106.3	106.7	104.9
5000	97.3	98.1	98.4	100.9	102.9	106.3	107.4	106.8	105.2
6300	97.5	98.0	99.1	101.5	103.9	106.9	107.7	107.2	106.1
8000	98.8	98.7	99.9	102.4	105.3	108.4	108.4	108.4	107.6
10000	99.4	99.7	100.4	103.1	105.6	108.5	109.0	109.4	109.0
12500	100.4	100.3	100.9	103.5	106.2	108.3	109.4	110.4	110.4
16000	105.6	103.3	102.4	104.3	106.7	108.8	110.0	111.2	110.9
20000	110.9	107.0	103.5	104.2	106.6	108.1	110.0	110.9	109.6
25000	110.9	110.4	106.6	105.2	107.2	107.8	109.7	110.7	108.7
31500	107.6	109.1	109.2	107.4	107.1	107.3	108.9	109.5	107.3
40000	108.8	107.8	106.4	109.5	108.6	107.5	108.3	108.9	106.9
50000	109.2	108.7	108.0	110.1	109.7	108.1	108.5	108.5	106.0
63000	108.6	109.0	108.8	109.3	110.5	108.8	108.5	108.4	105.9
80000	108.9	108.7	108.8	109.4	109.8	108.9	108.9	108.4	105.8
TSPL	118.5	117.9	117.2	118.0	119.0	119.7	120.7	121.4	120.6
SSPL	118.5	117.9	117.2	118.0	119.0	119.7	120.7	121.4	120.6

V_∞ =	102	fps
T_a =	79	°F
RH_a =	26	%
P_a =	14.65	psia

STAND XARF RIG ID VT=102 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3359 CONDITION 3359

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	3.20		1.53	3.20	THRUST,IDL	LB	28.6	69.4	N	127.0	308.5
TEMP	(R)	724.0	1246.7	(K)	402.2	692.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.062	0.043	KG/M3	0.997	0.697	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	999.6	2068.0	M/S	304.7	630.3	W (MODEL)	LB/S	0.9	1.1	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.4	74.6	78.4	80.1	79.2	77.7	78.3	80.9	84.6	97.3
.125	76.1	77.8	80.7	80.3	78.7	79.6	80.4	82.2	85.8	98.6
.160	76.5	79.7	81.2	81.6	81.2	80.4	80.4	84.1	88.8	100.1
.200	79.0	81.4	82.5	84.7	83.4	84.4	86.4	85.8	88.7	102.6
.250	81.9	84.4	85.1	86.2	87.4	88.0	87.8	91.8	93.6	106.1
.315	86.6	89.2	88.4	88.4	88.6	88.3	88.8	91.9	97.6	108.2
.400	90.8	89.2	88.2	88.3	87.8	88.6	92.2	93.9	100.1	109.7
.500	90.8	89.0	88.4	89.0	90.1	92.8	95.0	98.5	101.5	112.0
.630	88.0	89.9	90.6	91.8	92.8	94.2	96.3	99.4	104.1	113.6
.800	90.8	92.2	93.0	94.5	94.7	95.2	97.9	102.1	105.8	115.7
1.00	91.0	90.3	91.7	93.3	94.8	96.4	99.3	103.0	106.4	116.2
1.25	91.4	92.3	92.7	94.5	95.9	98.1	100.8	103.9	105.9	117.0
1.60	92.7	93.2	93.8	95.9	97.7	98.8	101.9	104.5	105.3	117.7
2.00	93.5	94.0	94.9	96.6	98.7	100.6	103.5	105.3	105.0	118.7
2.50	95.2	95.3	95.5	97.6	99.0	101.5	104.4	105.3	104.4	119.1
3.15	95.2	95.8	96.3	98.4	100.2	102.8	105.4	105.4	104.1	119.8
4.00	96.6	96.6	97.3	99.7	101.9	104.8	106.3	106.7	104.9	121.1
5.00	97.3	97.1	98.4	100.9	102.9	106.3	107.4	106.8	105.2	122.1
6.30	97.5	98.0	99.1	101.5	103.9	106.9	107.7	107.2	106.1	122.6
8.00	98.8	98.7	99.9	102.4	105.3	108.4	108.4	108.4	107.6	123.7
10.0	99.4	99.7	100.4	103.1	105.6	108.5	109.0	109.4	109.0	124.3
12.5	100.4	100.3	100.9	103.5	106.2	108.3	109.4	110.4	110.4	124.9
16.0	105.6	103.3	102.4	104.3	106.7	108.8	110.0	111.2	110.9	125.8
20.0	110.9	107.0	103.5	104.2	106.6	108.1	110.0	110.9	109.6	126.3
25.0	110.9	110.4	106.6	105.2	107.2	107.8	109.7	110.7	108.7	127.0
31.5	107.6	109.1	109.2	107.4	107.1	107.3	108.9	109.5	107.3	126.6
40.0	108.8	107.8	108.4	109.5	108.6	107.5	108.3	108.9	106.9	126.7
50.0	109.2	108.7	108.0	110.1	109.7	108.1	108.5	108.5	106.0	127.1
63.0	108.6	109.0	108.8	109.3	110.5	108.8	108.5	108.4	105.9	127.3
80.0	108.9	108.7	108.8	109.4	109.8	108.9	108.9	108.4	105.8	127.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	118.5	117.9	117.2	118.0	119.0	119.7	120.7	121.4	120.6	

OAPWL = 137.5

V_∞ =	102	fps
T_a =	79	°F
RH_a =	26	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3361 3361

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

MICROPHONE ANGLES IN DEGREES

BAND CENTER FREQ (HZ)	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	74.5	73.1	80.5	83.3	82.7	80.3	79.9	78.5	89.8
125	74.9	77.7	82.1	83.0	81.0	80.5	81.0	82.4	91.2
160	72.9	77.2	80.1	81.4	81.7	81.5	80.5	85.0	92.4
200	75.9	78.9	80.9	83.8	82.7	84.1	86.4	84.6	92.3
250	79.8	82.8	83.9	85.4	86.5	87.2	87.6	92.4	94.7
315	84.6	87.3	87.1	87.0	87.1	87.5	88.1	93.4	101.4
400	87.9	86.0	85.4	86.4	86.7	87.5	91.9	94.6	104.3
500	86.8	85.4	85.3	86.7	88.3	90.9	93.9	99.1	102.8
630	84.8	86.7	88.0	89.7	90.8	93.1	96.0	100.2	105.4
800	87.9	88.6	90.4	92.7	93.9	95.2	98.4	102.3	106.2
1000	88.5	88.5	89.2	91.7	93.7	95.7	98.7	103.2	105.7
1250	89.1	90.3	90.8	93.4	95.2	97.7	100.5	103.8	104.5
1600	90.4	91.5	92.4	94.8	96.5	98.0	101.7	104.0	103.5
2000	91.3	92.1	93.1	95.6	97.6	100.0	103.2	104.6	102.4
2500	93.2	93.6	94.0	96.4	98.3	100.9	104.2	104.6	101.6
3150	93.5	94.2	95.0	97.4	99.4	102.4	105.3	104.3	101.2
4000	94.5	95.0	95.9	98.2	100.9	104.3	106.0	105.4	101.1
5000	95.5	96.4	97.0	99.8	102.3	105.9	107.2	105.6	101.8
6300	95.9	96.7	97.9	100.6	103.4	106.8	107.6	106.3	102.8
8000	97.0	97.3	98.7	101.5	104.5	108.4	108.4	107.4	103.7
10000	98.1	98.7	99.4	102.2	105.2	108.6	109.0	108.7	105.1
12500	99.7	99.7	100.4	103.1	105.9	108.8	109.8	109.9	107.2
16000	106.1	103.4	102.1	103.9	106.9	109.4	110.7	111.0	108.0
20000	110.4	107.6	103.7	104.0	106.6	108.7	110.6	110.7	107.2
25000	109.7	110.1	107.1	105.6	107.3	108.4	110.2	110.6	106.5
31500	106.8	108.1	109.0	107.8	107.6	108.1	109.8	109.4	104.9
40000	108.0	107.2	108.0	109.5	109.2	108.4	109.1	108.6	104.2
50000	108.0	108.0	107.6	109.9	110.2	109.1	109.0	107.9	103.1
63000	107.4	108.2	108.5	109.3	110.9	109.8	109.0	107.5	102.7
80000	107.6	107.7	108.3	109.1	110.1	109.7	109.0	107.3	102.2
TSPL	117.6	117.3	116.9	117.8	119.1	120.1	121.1	120.9	118.5
SSPL	117.6	117.3	116.9	117.8	119.1	120.1	121.0	120.9	118.2

V_∞ =	203	fps
T_a =	69	°F
RH_a =	38	%
P_a =	14.40	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3361 3361

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	118.5	117.8	117.0	117.6	118.5	119.2	119.8	119.4	117.8
SSPL	118.5	117.8	117.0	117.6	118.5	119.2	119.7	119.4	117.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	116.9	116.0	117.0	117.3	117.9	118.3	118.7	118.3	116.3
SSPL	118.9	118.0	116.9	117.2	117.9	118.3	118.7	118.3	116.0

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/05/76		-00 000000	XARF 0	3361 3361

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	75.8	74.1	81.2	82.8	81.4	78.6	77.8	75.5	79.5
125	76.3	78.7	82.4	82.3	79.7	78.8	78.6	78.5	82.9
160	74.2	78.2	80.4	80.8	80.5	79.8	78.1	79.8	85.3
200	77.2	79.8	81.2	83.2	81.5	82.2	83.9	82.2	84.4
250	81.1	83.7	84.1	84.9	85.4	85.4	85.0	87.7	91.1
315	86.0	88.0	87.1	86.3	85.9	85.7	85.4	87.9	93.9
400	89.2	86.6	85.5	85.8	85.5	85.5	88.6	90.3	95.4
500	88.2	86.0	85.4	86.2	87.2	88.9	90.8	94.2	98.3
630	86.1	87.6	88.2	89.2	89.7	91.1	93.0	95.6	99.8
800	89.2	89.4	90.7	92.3	92.8	93.3	95.3	98.0	101.4
1000	89.8	89.2	89.4	91.3	92.6	93.7	95.6	98.8	102.0
1250	90.4	91.0	91.1	93.0	94.1	95.7	97.6	100.0	101.9
1600	91.7	92.3	92.7	94.4	95.4	96.1	98.7	100.8	101.6
2000	92.6	92.9	93.4	95.2	96.5	98.0	100.3	101.9	101.6
2500	94.6	94.3	94.3	96.0	97.2	98.9	101.4	102.4	101.3
3150	94.8	94.9	95.2	97.0	98.3	100.3	102.6	102.6	100.7
4000	95.8	95.7	96.1	97.8	99.8	102.3	103.5	103.6	101.5
5000	96.8	97.1	97.2	99.4	101.2	103.9	104.9	104.1	101.8
6300	97.2	97.5	98.2	100.3	102.3	104.9	105.4	104.7	102.6
8000	98.4	98.1	99.1	101.2	103.5	106.5	106.3	105.7	103.7
10000	99.4	99.4	99.7	101.9	104.1	106.7	106.8	106.7	105.1
12500	101.0	100.3	100.6	102.7	104.8	106.8	107.4	107.6	106.6
16000	107.4	103.8	102.2	103.5	105.8	107.5	108.2	108.7	107.6
20000	111.7	107.9	103.4	103.5	105.5	106.8	108.0	108.6	107.1
25000	111.0	110.6	106.7	105.0	106.1	106.5	107.6	108.4	106.8
31500	108.1	108.9	108.9	107.1	106.4	106.2	107.3	107.5	105.5
40000	109.3	107.9	108.2	109.0	108.0	106.7	106.8	106.8	104.7
50000	109.3	108.6	107.8	109.4	109.0	107.4	106.9	106.3	103.8
63000	108.7	108.9	108.5	108.8	109.7	108.1	107.0	106.0	103.3
80000	108.9	108.4	108.4	108.6	108.9	108.0	107.0	105.9	103.1
TSPL	118.9	117.9	116.9	117.3	117.9	118.3	118.7	118.8	117.5
SSPL	118.9	117.9	116.9	117.3	117.9	118.3	118.7	118.8	117.4

V_∞ =	203	fps
T_a =	69	°F
RH_a =	38	%
P_a =	14.40	psia

STAND XARF RIG ID VT=203 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3361 CONDITION 3361

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	3.22		1.52	3.22	THRUST,IDL	LB	28.0	67.2	N	124.3	299.0
TEMP	(R)	735.5	1258.3	(K)	408.6	699.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.061	0.043	KG/M3	0.979	0.691	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	1000.0	2081.0	M/S	304.8	634.3	W (MODEL)	LB/S	0.9	1.0	KG/S	0.4	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	75.8	74.1	81.2	82.8	81.4	78.6	77.8	75.5	79.5	98.0
.125	76.3	78.7	82.4	82.3	79.7	78.8	78.6	78.5	82.9	98.6
.160	74.2	78.2	80.4	80.8	80.5	79.8	78.1	79.8	85.3	98.3
.200	77.2	79.8	81.2	83.2	81.5	82.2	83.9	82.2	84.4	100.3
.250	81.1	83.7	84.1	84.9	85.4	85.4	85.0	87.7	91.1	103.8
.315	86.0	88.0	87.1	86.3	85.9	85.7	85.4	87.9	93.9	105.6
.400	89.2	86.6	85.5	85.8	85.5	85.5	88.6	90.3	95.4	106.3
.500	88.2	86.0	85.4	86.2	87.2	88.9	90.8	94.2	98.3	108.4
.630	86.1	87.6	88.2	89.2	89.7	91.1	93.0	95.6	99.8	110.2
.800	89.2	89.4	90.7	92.3	92.8	93.3	95.3	98.0	101.4	112.5
1.00	89.8	89.2	89.4	91.3	92.6	93.7	95.6	98.8	102.0	112.7
1.25	90.4	91.0	91.1	93.0	94.1	95.7	97.6	100.0	101.9	114.0
1.60	91.7	92.3	92.7	94.4	95.4	96.1	98.7	100.8	101.6	114.8
2.00	92.6	92.9	93.4	95.2	96.5	98.0	100.3	101.9	101.6	115.9
2.50	94.6	94.3	94.3	96.0	97.2	98.9	101.4	102.4	101.3	116.7
3.15	94.8	94.9	95.2	97.0	98.3	100.3	102.6	102.6	100.7	117.5
4.00	95.8	95.7	96.1	97.8	99.8	102.3	103.5	103.6	101.5	118.6
5.00	96.8	97.1	97.2	99.4	101.2	103.9	104.9	104.1	101.8	119.9
6.30	97.2	97.5	98.2	100.3	102.3	104.9	105.4	104.7	102.6	120.6
8.00	98.4	98.1	99.1	101.2	103.5	106.5	106.3	105.7	103.7	121.7
10.0	99.4	99.4	99.7	101.9	104.1	106.7	106.8	106.7	105.1	122.4
12.5	101.0	100.3	100.6	102.7	104.8	106.8	107.4	107.6	106.6	123.1
16.0	107.4	103.8	102.2	103.5	105.8	107.5	108.2	108.7	107.6	124.5
20.0	111.7	107.9	103.4	103.5	105.5	106.8	108.0	108.6	107.1	125.4
25.0	111.0	110.6	106.7	105.0	106.1	106.5	107.6	108.4	106.8	126.2
31.5	108.1	108.9	108.9	107.1	106.4	106.2	107.3	107.5	105.5	125.9
40.0	109.3	107.9	108.2	109.0	108.0	106.7	106.8	106.8	104.7	126.1
50.0	109.3	108.6	107.8	109.4	109.0	107.4	106.9	106.3	103.8	126.4
63.0	108.7	108.9	108.5	108.8	109.7	108.1	107.0	106.0	103.3	126.6
80.0	108.9	108.4	108.4	108.6	108.9	108.0	107.0	105.9	103.1	126.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	116.9	117.9	116.9	117.3	117.9	118.3	118.7	118.8	117.5	

OAPWL = 136.3

V_∞ =	203	fps
T_a =	69	°F
RH_a =	38	%
P_a =	14.40	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR '
W631 315 05/05/76 -00 000000 XARF 0 3362 3362 '

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	77.8	77.1	72.1	77.6	77.1	74.2	71.8	84.4	85.4
125	75.8	72.0	77.9	78.5	76.5	76.5	76.0	83.9	88.7
160	66.3	72.0	76.4	77.5	77.5	76.7	75.0	71.1	89.4
200	70.7	73.7	77.0	80.4	79.2	80.8	82.9	76.9	89.9
250	76.1	79.5	80.5	81.7	83.1	84.0	84.5	88.8	92.8
315	80.4	83.5	83.3	83.4	83.6	83.9	84.7	89.2	100.0
400	83.8	84.7	81.8	82.7	83.2	84.1	88.3	90.8	103.1
500	82.9	81.7	81.9	83.2	84.8	87.6	90.3	95.1	98.7
630	81.3	83.5	84.5	86.3	87.3	89.6	92.4	96.3	101.3
800	84.5	84.9	86.8	89.0	90.0	91.4	94.0	98.4	102.1
1000	85.3	85.4	86.1	88.2	90.1	92.2	95.3	99.3	101.6
1250	85.6	87.4	87.5	90.0	91.8	94.3	96.9	99.9	100.6
1600	87.1	88.3	89.0	91.6	93.0	94.5	98.0	100.4	100.0
2000	88.2	89.0	89.8	92.2	94.2	96.4	99.6	101.2	99.1
2500	90.0	90.4	90.8	93.0	94.7	97.5	100.5	101.1	98.4
3150	90.2	91.0	92.0	94.0	96.0	98.9	101.7	100.9	97.8
4000	91.3	91.9	92.8	94.8	97.4	100.8	102.5	101.7	97.6
5000	92.2	93.3	93.7	96.4	98.9	102.1	103.7	102.0	98.1
6300	92.5	93.2	94.5	97.2	99.6	103.0	103.8	102.2	98.7
8000	93.5	93.9	95.1	97.9	100.7	104.3	104.5	103.2	99.1
10000	93.7	94.7	95.8	98.5	101.3	104.4	104.6	103.8	99.5
12500	93.6	94.7	96.0	99.1	101.7	104.3	104.8	103.8	100.2
16000	94.2	95.2	96.3	99.2	102.4	104.6	105.2	104.1	100.6
20000	94.1	94.7	96.1	98.9	101.9	103.9	104.7	103.7	100.6
25000	96.3	96.0	96.2	99.0	102.3	103.4	104.2	104.5	101.1
31500	100.0	98.2	97.0	98.6	101.5	102.8	103.6	103.8	100.3
40000	100.7	100.3	98.8	98.9	101.0	102.2	102.5	102.7	99.4
50000	99.1	99.7	100.0	100.4	100.8	101.7	102.0	101.4	98.0
63000	98.9	99.4	99.9	100.9	101.5	101.7	101.4	100.8	97.1
80000	100.7	100.3	100.3	101.3	102.2	102.2	101.4	100.6	96.9
TSPL	106.8	108.8	109.1	110.8	113.0	115.0	115.8	115.5	114.0
SSPL	108.8	108.8	109.0	110.8	113.0	115.0	115.8	115.5	113.3

V_∞ =	202	fps
T_a =	67	°F
RH_a =	56	%
P_a =	14.40	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	109.7	109.4	109.2	110.6	112.4	114.0	114.5	114.1	113.3
SSPL	109.7	109.3	109.2	110.6	112.4	114.0	114.5	114.0	112.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	110.1	109.5	109.2	110.3	111.8	113.2	113.5	113.0	111.7
SSPL	110.1	109.5	109.1	110.3	111.8	113.2	113.5	112.9	111.1

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/05/76 -00 000000 XARF 0 3362 3362

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4273 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.1	77.4	72.2	77.2	75.8	72.7	69.1	76.5	83.4
125	77.1	72.8	78.3	77.8	75.3	74.7	73.3	77.6	83.7
160	67.6	73.2	76.7	76.9	76.3	75.0	73.4	68.4	74.1
200	72.0	74.7	77.5	79.9	78.0	78.8	80.7	75.8	78.0
250	77.4	80.4	80.7	81.2	82.0	82.2	81.9	84.2	88.0
315	81.7	84.3	83.3	82.8	82.4	82.1	82.0	83.8	90.6
400	85.1	83.2	81.8	82.1	82.1	82.1	85.1	86.3	92.4
500	84.2	82.3	82.0	82.8	83.7	85.6	87.2	90.4	94.2
630	82.7	84.3	84.8	85.8	86.2	87.6	89.4	91.8	95.8
800	85.8	85.7	87.1	88.5	88.8	89.5	91.0	93.9	97.5
1000	86.6	86.1	86.3	87.8	89.0	90.2	92.2	95.1	97.9
1250	87.0	88.1	87.7	89.6	90.7	92.3	94.0	96.2	98.0
1600	88.4	89.0	89.3	91.2	91.9	92.6	95.0	97.1	98.1
2000	89.5	89.7	90.1	91.8	93.1	94.4	96.7	98.4	98.2
2500	91.3	91.1	91.0	92.6	93.6	95.5	97.8	98.8	97.9
3150	91.6	91.8	92.2	93.5	94.9	96.9	99.0	99.1	97.3
4000	92.6	92.6	93.0	94.4	96.3	98.8	100.0	100.0	97.8
5000	93.5	94.0	93.9	96.0	97.8	100.1	101.3	100.6	98.1
6300	93.8	94.0	94.8	96.8	98.5	101.1	101.6	100.7	98.5
8000	94.8	94.7	95.4	97.6	99.7	102.4	102.4	101.6	99.3
10000	95.0	95.5	96.1	98.2	100.2	102.5	102.4	102.0	99.9
12500	94.9	95.4	96.3	98.7	100.6	102.4	102.6	102.0	100.1
16000	95.5	96.0	96.6	98.9	101.3	102.7	103.0	102.4	100.4
20000	95.4	95.4	96.4	98.6	100.8	102.0	102.4	101.9	100.1
25000	97.6	96.6	96.4	98.6	101.2	101.5	101.8	102.2	100.9
31500	101.3	98.7	97.0	98.2	100.4	100.9	101.2	101.5	100.2
40000	102.0	100.9	98.7	98.4	99.9	100.4	100.3	100.4	99.2
50000	100.4	100.4	100.1	99.8	99.6	99.9	99.8	99.5	97.8
63000	100.3	100.0	100.0	100.3	100.3	99.9	99.2	98.8	97.1
80000	102.0	100.9	100.4	100.8	101.0	100.5	99.4	98.7	96.9
TSPL	110.1	109.5	109.2	110.4	111.9	113.1	113.5	113.4	112.3
SSPL	110.1	109.5	109.2	110.4	111.8	113.1	113.5	113.4	112.2

V_∞ =	202	fps
T_a =	67	°F
RH_a =	56	%
P_a =	14.40	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/05/76 SCALE RATIO 0.0/1 RUN NUMBER 3362 CONDITION 3362

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.52	2.51		1.52	2.51	THRUST,IDL	LB		28.2	45.0	N	125.4	200.1
TEMP	(R)		723.3	1262.7	(K)	401.8	701.5	THRUST,MEA	LB			0.0	N		0.0
RHO	LB/FT3		0.062	0.040	KG/M3	0.994	0.645	AREA (MOD)	SQFT		0.02	0.01	SQM	0.001	0.001
VEL	FPS		986.3	1881.0	M/S	300.6	573.3	W (MODEL)	LB/S		0.9	0.8	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.1	77.4	72.2	77.2	75.8	72.7	69.1	76.5	83.4	94.8
.125	77.1	72.8	78.3	77.8	75.3	74.7	73.3	77.6	83.7	95.3
.160	67.6	73.2	76.7	76.9	76.3	75.0	73.4	68.4	74.1	93.2
.200	72.0	74.7	77.5	79.9	78.0	78.8	80.7	75.8	78.0	96.4
.250	77.4	80.4	80.7	81.2	82.0	82.2	81.9	84.2	88.0	100.4
.315	81.7	84.3	83.3	82.8	82.4	82.1	82.0	83.8	90.6	102.0
.400	85.1	83.2	81.8	82.1	82.1	82.1	85.1	86.3	92.4	102.8
.500	84.2	82.3	82.0	82.8	83.7	85.6	87.2	90.4	94.2	104.6
.630	82.7	84.3	84.8	85.8	86.2	87.6	89.4	91.8	95.8	106.5
.800	85.8	85.7	87.1	88.5	88.8	89.5	91.0	93.9	97.5	108.5
1.00	86.6	86.1	86.3	87.8	89.0	90.2	92.2	95.1	97.9	109.1
1.25	87.0	86.1	87.7	89.6	90.7	92.3	94.0	96.2	98.0	110.4
1.60	88.4	89.0	89.3	91.2	91.9	92.6	95.0	97.1	98.1	111.3
2.00	89.5	89.7	90.1	91.8	93.1	94.4	96.7	98.4	98.2	112.4
2.50	91.3	91.1	91.0	92.6	93.6	95.5	97.8	98.8	97.9	113.2
3.15	91.6	91.8	92.2	93.5	94.9	96.9	99.0	99.1	97.3	114.0
4.00	92.6	92.6	93.0	94.4	96.3	98.8	100.0	100.0	97.8	115.2
5.00	93.5	94.0	93.9	96.0	97.8	100.1	101.3	100.6	98.1	116.3
6.30	93.8	94.0	94.8	96.8	98.5	101.1	101.6	100.7	98.5	116.9
8.00	94.8	94.7	95.4	97.6	99.7	102.4	102.4	101.6	99.3	117.8
10.0	95.0	95.5	96.1	98.2	100.2	102.5	102.4	102.0	99.9	118.1
12.5	94.9	95.4	96.3	98.7	100.6	102.4	102.6	102.0	100.1	118.3
16.0	95.5	96.0	96.6	98.9	101.3	102.7	103.0	102.4	100.4	118.7
20.0	95.4	95.4	96.4	98.6	100.8	102.0	102.4	101.9	100.1	118.2
25.0	97.6	96.6	96.4	98.6	101.2	101.5	101.8	102.2	100.9	118.3
31.5	101.3	98.7	97.0	98.2	100.4	100.9	101.2	101.5	100.2	118.2
40.0	102.0	100.9	98.7	98.4	99.9	100.4	100.3	100.4	99.2	118.3
50.0	100.4	100.4	100.1	99.8	99.6	99.9	99.8	99.5	97.8	118.2
63.0	100.3	100.0	100.0	100.3	100.3	99.9	99.2	98.8	97.1	118.1
80.0	102.0	100.9	100.4	100.8	101.0	100.5	99.4	98.7	96.9	118.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	110.1	109.5	109.2	110.4	111.9	113.1	113.5	113.4	112.3	

DAPWL = 129.9

V_∞ =	202	fps
T_a =	67	°F
RH_a =	56	%
P_a =	14.40	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3363	3363

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	71.0	70.5	74.6	76.8	76.2	74.6	76.2	79.6	84.0
125	72.5	75.0	78.0	77.8	76.6	77.8	79.0	81.6	86.3
160	72.9	76.6	78.4	79.7	79.3	78.7	78.9	84.0	89.4
200	75.9	78.3	79.3	82.1	81.3	82.4	85.2	84.9	89.3
250	78.5	81.6	82.5	83.4	85.0	86.3	86.3	91.3	92.1
315	82.4	85.4	85.5	85.6	86.1	86.3	87.5	91.6	98.9
400	87.1	85.9	85.2	85.6	85.3	86.7	90.5	93.3	102.5
500	86.8	85.6	85.3	86.1	87.5	90.6	93.6	97.8	100.5
630	84.6	86.5	87.5	89.1	90.2	92.2	94.6	98.7	104.6
800	87.1	88.5	89.8	91.5	92.4	93.2	96.3	101.0	104.8
1000	87.8	87.2	88.7	90.6	92.3	94.3	97.8	101.9	105.1
1250	87.7	89.3	89.6	91.8	93.4	96.2	99.2	102.6	104.1
1600	89.0	90.0	91.2	93.3	95.3	96.9	100.4	102.9	103.2
2000	90.3	90.8	91.9	93.9	96.4	98.5	101.8	103.5	102.3
2500	91.8	92.2	92.6	94.8	96.6	99.4	102.6	103.4	101.3
3150	91.8	92.9	93.6	95.9	97.8	100.8	103.6	103.2	101.3
4000	93.0	93.5	94.5	96.9	99.3	102.5	104.3	104.2	101.1
5000	94.0	95.0	95.4	98.2	100.5	103.9	105.3	104.1	101.7
6300	94.0	94.8	96.3	98.7	101.3	104.7	105.5	104.4	102.4
8000	95.1	95.4	96.7	99.4	102.4	106.0	106.0	105.3	102.8
10000	95.3	96.2	97.1	99.8	102.7	105.9	106.2	105.8	103.5
12500	95.1	96.2	97.3	100.4	103.3	105.9	106.5	105.9	104.6
16000	95.5	96.4	97.6	100.4	103.8	105.9	106.6	106.2	105.4
20000	95.1	95.8	97.2	100.0	103.2	105.2	106.2	106.0	105.0
25000	96.4	96.5	97.1	99.9	103.5	104.6	105.7	106.8	104.6
31500	99.8	98.0	97.4	99.6	102.5	103.7	104.9	105.6	102.9
40000	101.0	100.4	98.8	99.5	102.0	103.1	103.7	104.5	101.8
50000	99.6	100.1	100.1	100.7	101.3	102.6	103.0	103.5	100.5
63000	98.6	99.4	100.0	101.2	101.8	102.3	102.4	102.8	99.7
80000	100.1	99.7	99.9	101.4	102.3	102.4	102.7	102.7	99.4
TSPL	109.3	109.5	109.8	111.9	114.2	116.4	117.4	117.7	117.0
SSPL	109.3	109.4	109.8	111.8	114.2	116.3	117.4	117.7	116.7

V_∞ =	99	fps
T_a =	71	°F
RH_a =	57	%
P_a =	14.65	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	109.7	109.7	109.9	111.7	113.9	115.8	116.7	116.9	116.2
SSPL	109.7	109.6	109.8	111.7	113.9	115.8	116.7	116.8	115.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	110.0	109.8	109.9	111.6	113.6	115.5	116.2	116.4	115.6
SSPL	109.9	109.7	109.8	111.6	113.6	115.4	116.2	116.3	115.3

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3363 3363

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	71.7	70.9	74.8	76.5	75.5	73.7	74.7	77.3	80.9
125	73.2	75.4	78.1	77.4	76.0	76.9	77.6	79.4	82.9
160	73.6	77.0	78.5	79.4	78.7	77.8	77.5	81.2	86.0
200	76.5	78.7	79.4	81.8	80.7	81.4	83.8	83.3	85.7
250	79.1	82.0	82.6	83.2	84.5	85.4	84.9	88.9	90.8
315	83.1	85.8	85.5	85.3	85.5	85.4	86.0	88.9	94.5
400	87.8	86.2	85.2	85.3	84.7	85.7	88.9	90.7	97.0
500	87.5	85.9	85.3	85.9	87.0	89.6	92.0	95.5	98.3
630	85.3	86.9	87.6	88.9	89.7	91.2	93.0	96.1	100.8
800	87.8	88.9	89.9	91.3	91.8	92.2	94.6	98.5	102.1
1000	88.5	87.6	88.8	90.4	91.8	93.3	96.1	99.6	102.6
1250	88.4	89.7	89.7	91.6	92.9	95.2	97.6	100.5	102.4
1600	89.7	90.4	91.3	93.1	94.8	95.9	98.8	101.1	101.9
2000	91.0	91.2	92.0	93.8	95.9	97.5	100.3	102.0	101.7
2500	92.5	92.6	92.7	94.7	96.1	98.4	101.2	102.2	101.0
3150	92.4	93.2	93.6	95.7	97.3	99.7	102.2	102.1	100.7
4000	93.6	93.8	94.6	96.7	98.8	101.5	103.0	103.1	101.1
5000	94.6	95.4	95.5	98.0	100.0	102.9	104.1	103.2	101.3
6300	94.7	95.2	96.4	98.5	100.8	103.7	104.3	103.5	101.8
8000	95.8	95.8	96.9	99.3	102.0	105.1	104.9	104.3	102.5
10000	96.0	96.6	97.2	99.7	102.2	104.9	105.0	104.7	103.1
12500	95.7	96.6	97.4	100.2	102.8	104.9	105.3	104.8	103.7
16000	96.2	96.8	97.7	100.3	103.3	104.9	105.4	105.0	104.3
20000	95.7	96.2	97.3	99.9	102.7	104.2	105.0	104.8	104.0
25000	97.0	96.8	97.2	99.7	103.0	103.6	104.4	105.4	104.3
31500	100.4	98.3	97.4	99.4	102.0	102.7	103.6	104.4	102.8
40000	101.7	100.7	98.8	99.3	101.5	102.2	102.5	103.3	101.8
50000	100.3	100.5	100.1	100.5	100.8	101.7	101.8	102.3	100.6
63000	99.2	99.7	100.0	100.9	101.2	101.3	101.2	101.6	99.8
80000	100.8	100.0	100.0	101.2	101.7	101.5	101.5	101.7	99.6
TSPL	110.0	109.8	109.9	111.7	113.7	115.4	116.2	116.5	115.8
SSPL	109.9	109.8	109.9	111.7	113.7	115.4	116.1	116.4	115.7

V_∞ =	99	fps
T_a =	71	°F
RH_a =	57	%
P_a =	14.65	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3363 CONDITION 3363

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.53	2.50		1.53	2.50	THRUST,IDL	LB	28.3	51.1	N	125.8	227.4
TEMP	(R)	710.3	1267.0	(K)	394.6	703.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.063	0.040	KG/M3	1.016	0.642	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	990.1	1881.0	M/S	301.8	573.3	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	71.7	70.9	74.8	76.5	75.5	73.7	74.7	77.3	80.9	93.6
.125	73.2	75.4	78.1	77.4	76.0	76.9	77.6	79.4	82.9	95.9
.160	73.6	77.0	78.5	79.4	78.7	77.8	77.5	81.2	86.0	97.5
.200	76.5	78.7	79.4	81.8	80.7	81.4	83.8	83.3	85.7	99.8
.250	79.1	82.0	82.6	83.2	84.5	85.4	84.9	88.9	90.8	103.3
.315	83.1	85.8	85.5	85.3	85.5	85.4	86.0	88.9	94.5	105.2
.400	87.8	86.2	85.2	85.3	84.7	85.7	88.9	90.7	97.0	106.6
.500	87.5	85.9	85.3	85.9	87.0	89.6	92.0	95.5	98.3	108.9
.630	85.3	86.9	87.6	88.9	89.7	91.2	93.0	96.1	100.8	110.5
.800	87.8	88.9	89.9	91.3	91.8	92.2	94.6	98.5	102.1	112.3
1.00	88.5	87.6	88.8	90.4	91.8	93.3	96.1	99.6	102.6	112.9
1.25	88.4	89.7	89.7	91.6	92.9	95.2	97.6	100.5	102.4	113.8
1.60	89.7	90.4	91.3	93.1	94.8	95.9	98.8	101.1	101.9	114.6
2.00	91.0	91.2	92.0	93.8	95.9	97.5	100.3	102.0	101.7	115.5
2.50	92.5	92.6	92.7	94.7	96.1	98.4	101.2	102.2	101.0	116.1
3.15	92.4	93.2	93.6	95.7	97.3	99.7	102.2	102.1	100.7	116.7
4.00	93.6	93.8	94.6	96.7	98.8	101.5	103.0	103.1	101.1	117.8
5.00	94.6	95.4	95.5	98.0	100.0	102.9	104.1	103.2	101.3	118.8
6.30	94.7	95.2	96.4	98.5	100.8	103.7	104.3	103.5	101.8	119.3
8.00	95.8	95.8	96.9	99.3	102.0	105.1	104.9	104.3	102.5	120.2
10.0	96.0	96.6	97.2	99.7	102.2	104.9	105.0	104.7	103.1	120.4
12.5	95.7	96.6	97.4	100.2	102.8	104.9	105.3	104.8	103.7	120.6
16.0	96.2	96.8	97.7	100.3	103.3	104.9	105.4	105.0	104.3	120.8
20.0	95.7	96.2	97.3	99.9	102.7	104.2	105.0	104.8	104.0	120.4
25.0	97.0	96.8	97.2	99.7	103.0	103.6	104.4	105.4	104.3	120.3
31.5	100.4	96.3	97.4	99.4	102.0	102.7	103.6	104.4	102.8	119.8
40.0	101.7	100.7	98.8	99.3	101.5	102.2	102.5	103.3	101.8	119.6
50.0	100.3	100.5	100.1	100.5	100.8	101.7	101.8	102.3	100.6	119.3
63.0	99.2	99.7	100.0	100.9	101.2	101.3	101.2	101.6	99.8	119.0
80.0	100.8	100.0	100.0	101.2	101.7	101.5	101.5	101.7	99.6	119.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	110.0	109.8	109.9	111.7	113.7	115.4	116.2	116.5	115.8	

OAPWL = 132.0

V_∞ =	99	fps
T_a =	71	°F
RH_a =	57	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3366 3366

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	66.8	67.6	70.6	72.5	71.9	70.7	71.5	74.9	79.9
125	67.7	70.5	73.2	73.3	72.5	73.6	74.6	76.8	81.7
160	68.1	71.7	73.5	74.8	74.6	74.4	74.8	79.3	84.9
200	71.2	73.8	74.8	77.4	76.8	77.9	80.3	80.4	84.8
250	74.0	76.6	78.2	78.5	80.0	81.3	81.1	86.3	87.3
315	77.1	79.7	80.2	80.6	81.2	81.4	82.6	86.2	94.9
400	81.1	80.5	80.1	80.9	81.0	82.0	85.4	88.0	98.2
500	81.0	80.3	80.4	81.5	82.8	85.5	88.3	92.0	94.5
630	79.7	81.4	82.5	84.0	85.2	87.1	89.1	92.7	98.3
800	82.8	83.3	84.5	86.2	87.1	88.3	91.0	94.8	98.1
1000	83.4	82.8	84.0	85.8	87.5	89.2	92.1	95.4	98.3
1250	83.2	84.9	85.0	87.2	88.7	90.9	93.5	96.1	97.5
1600	84.5	85.5	86.3	88.5	90.3	91.6	94.1	96.2	96.9
2000	85.5	86.3	87.2	89.1	91.2	93.1	95.3	96.8	95.8
2500	86.8	87.3	87.7	89.8	91.6	93.6	95.9	96.7	94.7
3150	86.9	87.9	88.7	90.8	92.5	94.6	96.7	96.1	94.2
4000	87.8	88.4	89.2	91.5	93.7	96.0	97.2	96.7	93.5
5000	88.7	89.6	90.1	92.7	94.7	97.2	97.9	96.4	93.7
6300	88.3	89.4	90.7	93.0	95.1	97.4	97.7	96.3	93.9
8000	89.3	89.7	91.1	93.5	96.0	98.4	97.7	96.8	93.8
10000	89.5	90.3	91.2	93.8	96.3	98.3	97.6	96.9	93.8
12500	88.9	90.0	91.2	94.0	96.3	98.0	97.3	96.5	94.1
16000	89.1	90.0	91.1	93.8	96.7	97.9	97.2	96.1	93.9
20000	88.3	89.3	90.6	93.1	95.8	97.1	96.1	95.0	92.6
25000	87.6	88.8	90.2	92.8	95.7	96.1	95.4	94.5	91.9
31500	86.9	88.3	89.6	92.0	94.6	95.2	94.5	92.8	90.1
40000	86.7	87.8	89.3	91.5	93.9	94.0	92.9	91.3	88.8
50000	86.1	87.1	88.7	91.3	92.7	93.4	92.0	89.8	87.1
63000	85.7	86.9	88.4	90.3	92.3	92.4	90.8	88.6	85.9
80000	86.4	87.0	88.5	90.6	92.0	92.1	90.4	88.2	85.3
TSPL	100.6	101.5	102.6	104.9	107.2	108.7	108.9	108.8	108.9
SSPL	100.5	101.4	102.5	104.9	107.1	108.7	108.9	108.7	108.2

V_∞ =	101	fps
T_a =	70	°F
RH_a =	57	%
P_a =	14.65	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	101.0	101.7	102.6	104.8	106.9	108.2	108.2	108.0	108.1
SSPL	100.9	101.6	102.5	104.7	106.8	108.2	108.2	107.9	107.4

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	101.2	101.8	102.6	104.7	106.6	107.8	107.7	107.5	107.5
SSPL	101.2	101.7	102.5	104.6	106.5	107.8	107.7	107.4	106.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3366 3366

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	67.5	68.0	70.7	72.3	71.2	69.8	70.1	72.5	76.5
125	68.4	71.0	73.3	73.0	71.9	72.7	73.3	74.6	78.2
160	68.8	72.2	73.6	74.6	74.0	73.5	73.3	76.6	81.4
200	71.9	74.3	74.9	77.1	76.2	76.9	78.9	78.7	81.3
250	74.6	77.0	78.3	78.2	79.5	80.4	79.7	83.8	86.0
315	77.7	80.1	80.2	80.3	80.6	80.4	81.1	83.4	89.7
400	81.8	80.8	80.1	80.6	80.4	81.0	83.8	85.3	92.2
500	81.7	80.6	80.4	81.3	82.3	84.5	86.7	89.8	92.3
630	80.4	81.8	82.6	83.8	84.7	86.1	87.6	90.2	94.6
800	83.5	83.7	84.6	86.0	86.6	87.3	89.4	92.5	95.5
1000	84.1	83.2	84.1	85.6	87.0	88.2	90.5	93.2	95.9
1250	83.9	85.3	85.1	87.0	88.2	89.9	92.0	94.2	95.7
1600	85.2	85.9	86.4	88.3	89.8	90.7	92.6	94.5	95.4
2000	86.2	86.7	87.3	88.9	90.7	92.2	93.9	95.3	95.1
2500	87.5	87.7	87.8	89.7	91.1	92.7	94.5	95.5	94.4
3150	87.5	88.2	88.7	90.6	91.9	93.6	95.4	95.0	93.6
4000	88.4	88.7	89.3	91.3	93.2	95.0	95.9	95.7	93.5
5000	89.3	90.0	90.2	92.5	94.2	96.2	96.7	95.6	93.4
6300	89.6	89.8	90.8	92.8	94.6	96.5	96.6	95.5	93.5
8000	90.0	90.1	91.2	93.4	95.6	97.5	96.7	95.9	93.8
10000	90.2	90.7	91.3	93.6	95.8	97.4	96.5	96.0	93.8
12500	89.5	90.4	91.3	93.8	95.8	97.0	96.2	95.5	93.7
16000	89.8	90.4	91.2	93.7	96.2	97.0	96.2	95.2	93.4
20000	88.9	89.7	90.7	92.9	95.3	96.2	95.1	94.0	92.2
25000	88.2	89.2	90.3	92.6	95.1	95.2	94.3	93.5	91.6
31500	87.5	88.7	89.7	91.8	94.1	94.3	93.5	92.0	89.8
40000	87.4	88.2	89.4	91.4	93.4	93.2	91.9	90.5	88.4
50000	86.8	87.5	88.8	91.1	92.2	92.5	91.1	89.1	86.8
63000	86.4	87.3	88.5	90.2	91.7	91.5	89.8	87.9	85.6
80000	87.1	87.3	88.6	90.4	91.4	91.2	89.5	87.5	85.0
TSPL	101.3	101.9	102.7	104.8	106.7	107.8	107.7	107.6	107.2
SSPL	101.2	101.8	102.6	104.7	106.6	107.7	107.7	107.5	106.9

V_∞ =	101	fps
T_a =	70	°F
RH_a =	57	%
P_a =	14.65	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3366 CONDITION 3366

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	28.5	27.3	N	126.6	121.3
TEMP	(R)	698.3	1225.7	(K)	387.9	680.9	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.064	0.038	KG/M3	1.032	0.610	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	975.2	1514.0	M/S	297.2	461.5	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	67.5	68.0	70.7	72.3	71.2	69.8	70.1	72.5	76.5	89.4
.125	68.4	71.0	73.3	73.0	71.9	72.7	73.3	74.6	78.2	91.4
.160	68.8	72.2	73.6	74.6	74.0	73.5	73.3	76.6	81.4	92.8
.200	71.9	74.3	74.9	77.1	76.2	76.9	78.9	78.7	81.3	95.2
.250	74.6	77.0	78.3	78.2	79.5	80.4	79.7	83.8	86.0	98.4
.315	77.7	80.1	80.2	80.3	80.6	80.4	81.1	83.4	89.7	100.0
.400	81.8	80.8	80.1	80.6	80.4	81.0	83.8	85.3	92.2	101.6
.500	81.7	80.6	80.4	81.3	82.3	84.5	86.7	89.8	92.3	103.4
.630	80.4	81.8	82.6	83.8	84.7	86.1	87.6	90.2	94.6	104.9
.800	83.5	83.7	84.6	86.0	86.6	87.3	89.4	92.5	95.5	106.6
1.00	84.1	83.2	84.1	85.6	87.0	88.2	90.5	93.2	95.9	107.1
1.25	83.9	85.3	85.1	87.0	88.2	89.9	92.0	94.2	95.7	108.1
1.60	85.2	85.9	86.4	88.3	89.8	90.7	92.6	94.5	95.4	108.8
2.00	86.2	86.7	87.3	88.9	90.7	92.2	93.9	95.3	95.1	109.6
2.50	87.5	87.7	87.8	89.7	91.1	92.7	94.5	95.5	94.4	110.1
3.15	87.5	88.2	88.7	90.6	91.9	93.6	95.4	95.0	93.6	110.5
4.00	88.4	88.7	89.3	91.3	93.2	95.0	95.9	95.7	93.5	111.3
5.00	89.3	90.0	90.2	92.5	94.2	96.2	96.7	95.6	93.4	112.1
6.30	89.0	89.8	90.8	92.8	94.6	96.5	96.6	95.5	93.5	112.3
8.00	90.0	90.1	91.2	93.4	95.6	97.5	96.7	95.9	93.8	112.9
10.0	90.2	90.7	91.3	93.6	95.8	97.4	96.5	96.0	93.8	112.9
12.5	89.5	90.4	91.3	93.8	95.8	97.0	96.2	95.5	93.7	112.7
16.0	89.8	90.4	91.2	93.7	96.2	97.0	96.2	95.2	93.4	112.8
20.0	88.9	89.7	90.7	92.9	95.3	96.2	95.1	94.0	92.2	111.9
25.0	88.2	89.2	90.3	92.6	95.1	95.2	94.3	93.5	91.6	111.3
31.5	87.5	88.7	89.7	91.8	94.1	94.3	93.5	92.0	89.8	110.4
40.0	87.4	88.2	89.4	91.4	93.4	93.2	91.9	90.5	88.4	109.5
50.0	86.8	87.5	88.8	91.1	92.2	92.5	91.1	89.1	86.8	108.7
63.0	86.4	87.3	88.5	90.2	91.7	91.5	89.8	87.9	85.6	107.9
80.0	87.1	87.3	88.6	90.4	91.4	91.2	89.5	87.5	85.0	107.8
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	101.3	101.9	102.7	104.8	106.7	107.8	107.7	107.6	107.2	OAPWL = 124.1

V_∞ =	101	fps
T_a =	70	°F
RH_a =	57	%
P_a =	1465	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/05/76		-00 000000	XARF	0	3367	3367

* DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.2	75.4	78.5	73.3	74.7	67.3	79.4	83.6	83.8
125	67.5	74.1	72.6	74.6	72.8	72.3	79.1	82.4	88.7
160	69.5	73.1	72.1	73.5	73.3	73.9	77.9	82.1	87.6
200	67.5	72.9	71.0	75.4	75.3	76.2	77.4	81.2	88.2
250	71.8	76.5	75.8	77.0	78.3	79.4	78.6	81.1	90.9
315	76.2	78.3	78.2	78.3	78.5	79.2	79.8	83.0	97.3
400	78.7	78.6	76.8	78.3	78.9	79.7	83.2	84.7	101.3
500	78.2	78.4	77.4	78.8	80.2	82.6	85.3	89.4	93.2
630	77.5	80.1	79.8	81.4	82.7	84.8	87.1	90.3	95.1
800	80.7	81.2	81.6	83.6	85.1	86.3	88.7	92.2	95.6
1000	81.1	81.8	81.9	83.5	85.5	87.3	89.7	93.0	94.8
1250	81.4	83.0	83.1	85.2	86.8	88.8	91.1	93.4	94.0
1600	82.7	83.7	84.3	86.5	88.1	89.2	91.8	93.7	93.3
2000	83.5	84.4	85.0	87.3	89.0	90.8	92.9	94.1	92.2
2500	85.0	85.4	85.7	87.9	89.5	91.4	93.5	93.9	91.0
3150	85.0	86.0	86.8	88.8	90.6	92.6	94.4	93.4	90.2
4000	86.1	86.5	87.4	89.4	91.8	93.9	94.8	93.7	89.4
5000	87.0	87.9	88.4	90.8	92.8	94.9	95.7	93.4	89.5
6300	87.0	87.7	89.1	91.3	93.4	95.3	95.6	93.3	89.5
8000	87.8	88.1	89.5	91.9	94.2	96.5	95.6	93.8	89.5
10000	88.0	88.8	89.6	92.1	94.4	96.2	95.4	93.8	89.5
12500	87.5	88.5	89.7	92.3	94.7	95.9	95.2	93.5	89.5
16000	87.8	88.8	89.7	92.5	94.9	96.1	94.9	93.1	89.2
20000	87.2	88.0	89.2	91.8	94.1	95.2	94.0	91.8	87.8
25000	86.4	87.4	88.8	91.3	94.1	94.2	93.1	91.4	87.0
31500	85.5	86.7	88.0	90.3	92.8	93.2	92.1	89.6	85.4
40000	85.4	86.2	87.5	89.8	91.9	92.2	90.6	88.2	84.3
50000	84.8	85.5	86.8	89.5	90.7	91.0	89.4	86.8	82.6
63000	84.1	85.2	86.5	88.5	90.2	90.1	88.3	85.7	81.5
80000	84.2	84.9	86.6	88.6	89.8	89.8	87.8	85.3	81.0
TSPL	99.1	99.9	100.9	103.2	105.3	106.6	106.7	106.0	107.1
SSPL	98.9	99.8	100.8	103.1	105.3	106.6	106.6	105.9	104.6

V_∞ =	202	fps
T_a =	67	°F
RH_a =	61	%
P_a =	14.40	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	100.0	100.4	101.1	103.0	104.7	105.7	105.4	104.5	106.4
SSPL	99.9	100.3	101.0	102.9	104.7	105.7	105.3	104.4	103.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	100.4	100.6	101.0	102.7	104.1	104.8	104.3	103.5	104.9
SSPL	100.3	100.5	100.9	102.6	104.1	104.8	104.3	103.3	102.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR '
W631 315 05/05/76 -00 000000 XARF 0 3367 3367 '

' DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	79.5	76.1	78.3	72.6	73.4	65.5	74.5	80.0	81.6
125	68.8	75.0	72.6	74.0	71.5	70.3	75.4	78.3	82.2
160	70.8	73.9	72.1	73.0	72.1	72.0	74.6	77.5	81.8
200	68.6	73.7	71.2	75.0	74.1	74.4	74.7	76.5	81.3
250	73.2	77.3	75.9	76.5	77.2	77.7	76.3	76.6	82.0
315	77.5	79.1	78.2	77.7	77.4	77.4	77.2	77.9	85.4
400	80.0	79.2	76.8	77.8	77.7	77.8	80.2	80.2	87.7
500	79.5	78.9	77.4	78.3	79.0	80.6	82.3	84.9	88.5
630	78.8	80.9	79.9	80.9	81.6	82.8	84.2	86.1	89.6
800	82.0	81.9	81.8	83.2	83.9	84.4	85.8	88.0	91.1
1000	82.4	82.4	82.0	83.1	84.4	85.4	86.8	89.1	91.4
1250	82.7	83.7	83.3	84.7	85.7	86.9	88.3	90.0	91.3
1600	84.0	84.5	84.5	86.1	87.0	87.3	89.0	90.6	91.3
2000	84.8	85.1	85.2	86.9	87.9	88.9	90.2	91.4	91.2
2500	86.3	86.1	85.9	87.5	88.4	89.5	90.9	91.6	90.6
3150	86.3	86.8	87.1	88.4	89.4	90.6	91.9	91.6	89.8
4000	87.5	87.3	87.6	89.0	90.7	92.0	92.5	92.1	89.7
5000	88.3	88.6	88.6	90.4	91.7	93.0	93.5	92.2	89.5
6300	88.3	88.4	89.4	90.9	92.3	93.4	93.5	92.1	89.4
8000	89.1	88.9	89.8	91.5	93.1	94.7	93.8	92.4	89.8
10000	89.3	89.5	89.9	91.7	93.3	94.4	93.5	92.3	89.8
12500	88.8	89.2	90.0	91.9	93.5	94.1	93.2	92.0	89.6
16000	89.1	89.5	90.0	92.1	93.8	94.3	93.1	91.6	89.2
20000	88.5	88.7	89.5	91.4	93.0	93.4	92.2	90.5	87.8
25000	87.7	88.2	89.1	90.9	92.9	92.4	91.2	89.9	87.4
31500	86.8	87.4	88.3	89.9	91.6	91.5	90.3	88.4	85.5
40000	86.7	87.0	87.8	89.4	90.8	90.5	88.9	87.0	84.3
50000	86.2	86.2	87.1	89.1	89.5	89.3	87.7	85.7	82.8
63000	85.5	86.0	86.8	88.1	89.1	88.5	86.6	84.6	81.7
80000	85.5	85.7	86.9	88.1	88.6	88.1	86.2	84.1	81.2
TSPL	100.4	100.6	101.1	102.8	104.2	104.8	104.5	103.9	103.2
SSPL	100.3	100.5	101.1	102.7	104.1	104.8	104.5	103.8	102.8

V_∞ =	202	fps
T_a =	67	°F
RH_a =	61	%
P_a =	14.40	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3367 CONDITION 3367

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
	AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
	P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	27.7	26.1	N	123.4	116.3
	TEMP	(R)	724.0	1214.0	(K)	402.2	674.4	THRUST,MEA	LB		0.0	N		0.0
	RHO	LB/FT3	0.062	0.038	KG/M3	0.995	0.616	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
	VEL	FPS	992.2	1503.0	M/S	302.4	458.1	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	79.5	76.1	78.3	72.6	73.4	65.5	74.5	80.0	81.6	94.9
.125	68.8	75.0	72.6	74.0	71.5	70.3	75.4	78.3	82.2	93.2
.160	70.8	73.9	72.1	73.0	72.1	72.0	74.6	77.5	81.8	92.8
.200	68.8	73.7	71.2	75.0	74.1	74.4	74.7	76.5	81.3	93.0
.250	73.2	77.3	75.9	76.5	77.2	77.7	76.3	76.6	82.0	95.3
.315	77.5	79.1	78.2	77.7	77.4	77.4	77.2	77.9	85.4	96.9
.400	80.0	79.2	76.8	77.8	77.7	77.8	80.2	80.2	87.7	98.0
.500	79.5	78.9	77.4	78.3	79.0	80.6	82.3	84.9	88.5	99.6
.630	78.8	80.9	79.9	80.9	81.6	82.8	84.2	86.1	89.6	101.3
.800	82.0	81.9	81.8	83.2	83.9	84.4	85.8	88.0	91.1	103.1
1.00	82.4	82.4	82.0	83.1	84.4	85.4	86.8	89.1	91.4	103.8
1.25	82.7	83.7	83.3	84.7	85.7	86.9	88.3	90.0	91.3	104.8
1.60	84.0	84.5	84.5	86.1	87.0	87.3	89.0	90.6	91.3	105.6
2.00	84.8	85.1	85.2	86.9	87.9	88.9	90.2	91.4	91.2	106.5
2.50	86.3	86.1	85.9	87.5	88.4	89.5	90.9	91.6	90.6	107.0
3.15	86.3	86.8	87.1	88.4	89.4	90.6	91.9	91.6	89.8	107.7
4.00	87.5	87.3	87.6	89.0	90.7	92.0	92.5	92.1	89.7	108.5
5.00	88.3	88.6	88.6	90.4	91.7	93.0	93.5	92.2	89.5	109.4
6.30	88.3	88.4	89.4	90.9	92.3	93.4	93.5	92.1	89.4	109.7
8.00	89.1	88.9	89.8	91.5	93.1	94.7	93.8	92.4	89.8	110.4
10.0	89.3	89.5	89.9	91.7	93.3	94.4	93.5	92.3	89.8	110.4
12.5	88.8	89.2	90.0	91.9	93.5	94.1	93.2	92.0	89.6	110.3
16.0	89.1	89.5	90.0	92.1	93.8	94.3	93.1	91.6	89.2	110.4
20.0	86.5	86.7	89.5	91.4	93.0	93.4	92.2	90.5	87.8	109.5
25.0	87.7	88.2	89.1	90.9	92.9	92.4	91.2	89.9	87.4	109.0
31.5	86.8	87.4	88.3	89.9	91.6	91.5	90.3	88.4	85.5	107.9
40.0	86.7	87.0	87.8	89.4	90.8	90.5	88.9	87.0	84.3	107.1
50.0	86.2	86.2	87.1	89.1	89.5	89.3	87.7	85.7	82.8	106.2
63.0	85.5	86.0	86.8	88.1	89.1	88.5	86.6	84.6	81.7	105.5
80.0	85.5	85.7	86.9	88.1	88.6	88.1	86.2	84.1	81.2	105.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	100.4	100.6	101.1	102.8	104.2	104.8	104.5	103.9	103.2	OAPWL = 121.4

V_∞ =	202	fps
T_a =	67	°F
RH_a =	61	%
P_a =	14.40	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR 1
W631 315 05/05/76 =00 000000 XARF 0 3368 3368 7

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	75.4	75.6	77.5	79.3	61.9	78.8	78.6	82.5	83.8
125	73.4	75.0	76.3	76.2	67.2	60.6	77.8	80.7	88.2
160	71.0	73.3	65.4	62.4	67.4	66.3	76.4	80.2	86.6
200	71.7	74.2	73.5	69.6	69.5	70.1	67.4	78.9	88.4
250	71.4	66.1	70.9	71.1	73.3	74.3	71.8	81.1	91.5
315	67.2	72.0	72.7	73.1	73.4	74.0	73.8	80.7	98.3
400	72.5	72.9	72.3	73.3	74.3	75.0	77.9	76.4	100.3
500	71.4	71.6	72.4	74.2	75.6	77.9	79.9	83.6	89.7
630	71.5	73.9	75.2	76.7	77.8	79.6	81.1	84.4	89.9
800	75.6	75.4	76.7	78.7	79.9	81.0	82.8	86.3	90.3
1000	75.8	76.0	76.7	78.6	80.2	81.6	83.5	86.7	89.6
1250	76.1	77.5	77.9	79.9	81.3	83.1	84.5	86.9	88.6
1600	77.4	78.2	79.0	80.7	82.3	83.3	85.0	86.9	88.2
2000	77.8	78.7	79.5	81.3	82.9	84.3	85.8	87.3	87.2
2500	79.1	79.5	79.8	81.7	83.1	84.2	85.8	87.1	86.0
3150	78.9	79.9	80.4	82.1	83.6	84.5	85.8	86.1	84.6
4000	79.7	80.0	80.6	82.1	84.0	85.1	85.8	85.8	83.0
5000	80.3	81.0	80.9	82.9	84.3	85.3	85.8	84.6	81.9
6300	80.4	80.9	81.7	83.2	84.3	84.8	84.8	83.3	80.4
8000	82.7	82.3	82.5	83.9	84.8	85.3	84.4	82.7	78.7
10000	82.9	82.7	82.4	83.4	84.3	84.6	83.2	81.6	77.3
12500	82.2	82.4	82.1	83.3	84.2	84.1	82.5	80.5	76.4
16000	82.2	82.3	81.9	83.6	84.8	84.0	81.6	79.1	75.0
20000	82.5	82.4	82.7	83.7	84.2	83.3	80.4	77.6	73.2
25000	82.1	82.7	82.7	83.6	84.4	82.8	79.5	77.0	71.9
31500	82.2	82.2	82.7	83.0	83.7	82.1	78.6	75.5	70.4
40000	82.5	82.6	82.2	83.0	83.1	81.6	78.0	74.8	70.3
50000	82.1	82.0	81.7	82.5	81.9	80.3	77.4	74.1	69.3
63000	80.9	81.0	81.3	81.7	81.6	79.7	76.6	73.6	69.0
80000	80.1	79.6	80.7	81.3	81.2	79.7	76.7	74.0	69.1
TSPL	94.2	94.4	94.7	95.9	96.7	96.9	97.0	98.0	104.5
SSPL	94.0	94.2	94.4	95.7	96.6	96.8	96.7	97.4	98.6

V_∞ =	201	fps
T_a =	66	°F
RH_a =	68	%
P_a =	14.40	psia

DFCK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3368 3368

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	95.1	95.0	94.9	95.7	96.1	96.0	95.7	96.5	103.8
SSPL	94.9	94.8	94.6	95.5	96.0	95.8	95.4	95.9	97.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	95.5	95.2	94.8	95.3	95.5	95.1	94.7	95.4	102.3
SSPL	95.3	94.9	94.5	95.1	95.4	95.0	94.4	94.8	96.4

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3368 3368

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4223 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	76.7	76.4	77.8	77.8	60.6	76.2	76.4	78.2	80.8
125	74.7	75.8	76.4	75.1	65.6	58.5	72.0	77.2	80.9
160	72.3	73.6	64.6	62.0	66.3	64.3	72.0	76.0	80.1
200	73.0	74.9	73.1	68.8	68.3	68.4	64.8	70.6	80.5
250	72.7	66.8	71.2	70.6	72.2	72.5	69.3	73.6	82.8
315	68.5	72.9	72.8	72.5	72.2	72.2	71.1	73.6	84.5
400	73.8	73.5	72.3	72.8	73.2	73.1	75.2	72.4	81.4
500	72.7	72.3	72.6	73.7	74.5	76.0	77.0	79.1	83.5
630	72.8	74.7	75.4	76.2	76.7	77.7	78.4	80.1	83.9
800	76.9	76.1	77.0	78.2	78.7	79.1	80.0	82.0	85.4
1000	77.1	76.7	76.9	78.2	79.0	79.7	80.7	82.6	85.4
1250	77.4	78.2	78.1	79.4	80.2	81.2	81.8	83.3	85.2
1600	78.7	78.9	79.2	80.3	81.1	81.4	82.3	83.5	85.0
2000	79.1	79.5	79.7	80.8	81.8	82.4	83.2	84.2	84.9
2500	80.4	80.1	80.0	81.2	82.0	82.3	83.2	84.2	84.4
3150	80.2	80.6	80.5	81.6	82.5	82.7	83.4	83.7	83.2
4000	81.0	80.7	80.8	81.7	82.9	83.3	83.4	83.5	82.4
5000	81.6	81.7	81.1	82.5	83.1	83.4	83.5	82.8	81.1
6300	81.7	81.6	81.8	82.7	83.1	83.0	82.7	81.6	79.8
8000	84.0	82.9	82.6	83.4	83.6	83.6	82.5	81.2	78.8
10000	84.2	83.4	82.4	82.9	83.1	82.9	81.3	80.0	77.6
12500	83.5	83.1	82.2	82.8	83.1	82.5	80.8	79.1	76.6
16000	83.5	82.9	82.0	83.1	83.6	82.4	80.0	77.9	75.1
20000	83.8	83.1	82.8	83.1	83.0	81.7	78.9	76.5	73.5
25000	83.4	83.4	82.7	83.0	83.1	81.2	78.0	75.8	72.6
31500	83.6	82.9	82.7	82.4	82.5	80.5	77.2	74.5	71.1
40000	83.8	83.2	82.3	82.4	81.9	80.1	76.7	73.9	70.6
50000	83.4	82.6	81.8	81.9	80.6	78.7	75.9	73.2	69.8
63000	82.2	81.7	81.4	81.1	80.3	78.1	75.1	72.6	69.4
80000	81.5	80.3	80.9	80.7	79.9	78.1	75.2	72.9	69.8
TSPL	95.5	95.1	94.8	95.3	95.5	95.2	94.7	94.9	96.4
SSPL	95.3	94.9	94.5	95.1	95.4	95.0	94.5	94.5	95.2

V_∞ =	201	fps
T_a =	66	°F
RH_a =	68	%
P_a =	14.40	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3368 CONDITION 3368

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	1.30		1.53	1.30	THRUST,IDL	LB	28.3	10.7	N	125.7	47.7
TEMP	(R)		728.7	1104.3	(K)	404.8	613.5	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.062	0.039	KG/M3	0.990	0.623	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS		1000.0	985.6	M/S	304.8	300.4	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	76.7	76.4	77.8	77.8	60.6	76.2	76.4	78.2	80.8	95.1
.125	74.7	75.8	76.4	75.1	65.6	58.5	72.0	77.2	80.9	93.1
.160	72.3	73.6	64.6	62.0	66.3	64.3	72.0	76.0	80.1	90.2
.200	73.0	74.9	73.1	68.8	68.3	68.4	64.8	70.6	80.5	90.7
.250	72.7	66.8	71.2	70.6	72.2	72.5	69.3	73.6	82.8	91.4
.315	68.5	72.9	72.8	72.5	72.2	72.2	71.1	73.6	84.5	92.7
.400	73.8	73.5	72.3	72.8	73.2	73.1	75.2	72.4	81.4	92.4
.500	72.7	72.3	72.6	73.7	74.5	76.0	77.0	79.1	83.5	94.3
.630	72.8	74.7	75.4	76.2	76.7	77.7	78.4	80.1	83.9	95.8
.800	76.9	76.1	77.0	78.2	78.7	79.1	80.0	82.0	85.4	97.6
1.00	77.1	76.7	76.9	78.2	79.0	79.7	80.7	82.6	85.4	98.0
1.25	77.4	78.2	78.1	79.4	80.2	81.2	81.8	83.3	85.2	98.9
1.60	78.7	78.9	79.2	80.3	81.1	81.4	82.3	83.5	85.0	99.4
2.00	79.1	79.5	79.7	80.8	81.8	82.4	83.2	84.2	84.9	100.1
2.50	80.4	80.1	80.0	81.2	82.0	82.3	83.2	84.2	84.4	100.2
3.15	80.2	80.6	80.5	81.6	82.5	82.7	83.4	83.7	83.2	100.4
4.00	81.0	80.7	80.8	81.7	82.9	83.3	83.4	83.5	82.4	100.6
5.00	81.6	81.7	81.1	82.5	83.1	83.4	83.5	82.8	81.1	100.8
6.30	81.7	81.6	81.8	82.7	83.1	83.0	82.7	81.6	79.8	100.6
8.00	84.0	82.9	82.6	83.4	83.6	83.6	82.5	81.2	78.8	101.2
10.0	84.2	83.4	82.4	82.9	83.1	82.9	81.3	80.0	77.6	100.9
12.5	83.5	83.1	82.2	82.8	83.1	82.5	80.8	79.1	76.6	100.6
16.0	83.5	82.9	82.0	83.1	83.6	82.4	80.0	77.9	75.1	100.5
20.0	83.8	83.1	82.8	83.1	83.0	81.7	78.9	76.5	73.5	100.4
25.0	83.4	83.4	82.7	83.0	83.1	81.2	78.0	75.8	72.6	100.3
31.5	83.6	82.9	82.7	82.4	82.5	80.5	77.2	74.5	71.1	99.8
40.0	83.8	83.2	82.3	82.4	81.9	80.1	76.7	73.9	70.6	99.7
50.0	83.4	82.6	81.8	81.9	80.6	78.7	75.9	73.2	69.8	99.0
63.0	82.2	81.7	81.4	81.1	80.3	78.1	75.1	72.6	69.4	98.3
80.0	81.5	80.3	80.9	80.7	79.9	78.1	75.2	72.9	69.8	97.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.5	95.1	94.8	95.3	95.5	95.2	94.7	94.9	96.4	OAPWL = 113.5

V_∞ =	201	fps
T_a =	66	°F
RH_a =	68	%
P_a =	14.40	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/05/76		-00 000000	XARF 0	3369 3369

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4223 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	61.7	61.2	66.2	67.8	66.9	66.5	67.3	68.2	74.4
125	63.6	66.2	69.4	69.2	68.3	69.5	70.4	71.2	77.1
160	63.8	67.6	69.9	70.8	70.7	70.0	70.3	74.7	80.1
200	67.2	69.6	71.1	73.6	72.7	73.5	75.9	75.8	80.0
250	69.5	72.6	73.9	74.4	75.9	77.3	76.9	81.9	82.7
315	72.7	75.6	76.0	76.4	76.9	77.0	78.3	81.8	88.9
400	77.3	76.8	76.3	76.9	77.1	77.7	80.6	83.3	93.1
500	77.4	76.4	76.4	77.4	78.7	81.1	83.4	87.3	89.9
630	75.8	77.5	78.6	80.1	81.2	82.8	84.1	87.8	93.7
800	78.7	79.2	80.3	81.8	82.7	83.5	85.8	89.7	93.6
1000	79.2	78.6	79.8	81.5	83.0	84.4	86.6	90.2	94.0
1250	78.9	80.2	80.5	82.6	84.2	85.8	87.6	90.8	93.3
1600	79.9	80.8	81.5	83.6	85.3	86.2	88.2	90.8	92.6
2000	80.6	81.2	82.1	84.0	85.9	87.3	88.9	91.0	91.5
2500	81.4	81.7	82.3	84.5	85.9	87.3	88.8	90.7	90.1
3150	81.2	82.1	82.8	84.7	86.3	87.5	89.0	89.9	88.7
4000	81.8	82.1	82.7	84.8	86.7	88.0	88.7	89.7	86.8
5000	82.2	83.0	83.0	85.4	86.9	88.0	88.7	88.3	85.3
6300	82.2	82.5	83.4	85.3	86.6	87.4	87.8	86.8	83.7
8000	83.6	83.2	83.7	85.7	86.9	87.7	87.2	86.1	81.9
10000	83.7	83.7	83.8	85.0	86.2	86.9	86.0	84.7	80.3
12500	82.9	83.3	83.5	84.9	86.1	86.3	85.1	83.2	79.3
16000	83.0	83.0	82.9	85.3	86.6	85.9	84.0	81.8	77.8
20000	83.0	83.0	83.6	85.0	85.8	85.0	82.5	79.9	75.7
25000	82.9	83.3	83.5	84.8	85.9	84.2	81.2	79.1	74.5
31500	83.0	82.8	83.3	84.0	85.0	83.2	80.2	77.4	72.6
40000	83.0	82.9	82.8	84.1	84.4	82.7	79.3	76.6	72.0
50000	82.4	82.2	82.4	83.3	82.9	81.2	78.6	75.5	71.2
63000	81.1	81.6	81.9	82.6	82.6	80.6	78.0	74.8	70.5
80000	80.8	80.7	81.1	82.0	82.3	80.5	77.7	74.5	69.8
TSPL	95.4	95.6	96.1	97.7	98.8	99.3	99.8	101.2	103.1
SSPL	95.3	95.5	95.9	97.6	98.7	99.2	99.6	101.0	102.3

V_∞ =	99	fps
T_a =	67	°F
RH_a =	68	%
P_a =	14.65	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	75.	85.	95.	104.	114.	125.	135.	146.	156.
TSPL	95.8	95.9	96.1	97.5	98.5	98.8	99.1	100.3	102.3
SSPL	95.7	95.7	96.0	97.4	98.4	98.7	98.9	100.1	101.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	80.	90.	100.	110.	121.	132.	143.	154.
TSPL	96.0	96.0	96.1	97.4	98.3	98.4	98.6	99.8	101.6
SSPL	95.9	95.8	95.9	97.3	98.2	98.3	98.4	99.6	100.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/05/76 -00 000000 XARF 0 3369 3369

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4223

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	62.4	61.7	66.4	67.5	66.2	65.6	66.1	66.2	70.1
125	64.2	66.7	69.5	68.9	67.7	68.6	69.1	69.3	73.0
160	64.4	68.1	70.0	70.5	70.0	69.1	68.9	72.0	76.6
200	67.9	70.0	71.2	73.3	72.1	72.5	74.5	74.2	76.6
250	70.1	73.1	74.0	74.1	75.3	76.4	75.5	79.5	81.4
315	73.4	76.0	76.0	76.1	76.3	76.1	76.8	79.2	84.5
400	77.9	77.1	76.3	76.6	76.5	76.7	79.1	80.6	87.3
500	78.0	76.7	76.4	77.2	78.2	80.1	81.9	85.0	87.7
630	76.4	77.9	78.7	79.9	80.7	81.9	82.6	85.3	89.9
800	79.4	79.6	80.4	81.6	82.1	82.6	84.3	87.3	90.8
1000	79.9	78.9	79.9	81.3	82.5	83.4	85.1	87.9	91.2
1250	79.6	80.6	80.6	82.4	83.7	84.9	86.1	88.7	91.1
1600	80.6	81.2	81.6	83.4	84.8	85.3	86.8	88.9	90.6
2000	81.3	81.6	82.2	83.8	85.4	86.4	87.5	89.3	90.1
2500	82.1	82.1	82.4	84.3	85.4	86.4	87.5	89.1	89.2
3150	81.8	82.4	82.8	84.5	85.7	86.5	87.6	88.5	87.9
4000	82.4	82.4	82.8	84.6	86.1	87.0	87.4	88.4	86.9
5000	82.8	83.3	83.1	85.2	86.3	87.1	87.5	87.3	85.3
6300	82.9	82.9	83.5	85.1	86.1	86.5	86.7	85.9	83.7
8000	84.3	83.6	83.8	85.5	86.4	86.8	86.2	85.4	82.4
10000	84.4	84.0	83.8	84.8	85.6	86.0	85.0	84.0	80.8
12500	83.5	83.6	83.5	84.6	85.5	85.4	84.1	82.5	79.5
16000	83.7	83.3	83.0	85.1	86.0	85.1	83.1	81.2	78.0
20000	83.6	83.3	83.6	84.8	85.2	84.2	81.7	79.4	76.0
25000	83.5	83.6	83.5	84.5	85.2	83.4	80.4	78.5	75.0
31500	83.6	83.1	83.3	83.7	84.4	82.4	79.4	77.0	73.2
40000	83.7	83.3	82.9	83.9	83.8	82.0	78.6	76.2	72.5
50000	83.0	82.5	82.5	83.0	82.2	80.4	77.8	75.1	71.5
63000	81.8	81.9	81.9	82.3	82.0	79.8	77.2	74.4	70.8
80000	81.5	81.0	81.2	81.7	81.6	79.7	76.9	74.1	70.3
TSPL	96.0	96.0	96.1	97.5	98.3	98.4	98.5	99.5	100.7
SSPL	95.9	95.8	96.0	97.3	98.2	98.3	98.4	99.3	100.3

V_∞ =	99	fps
T_a =	67	°F
RH_a =	68	%
P_a =	14.65	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3369 CONDITION 3369

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.54	1.31		1.54	1.31	THRUST,IDL	LB	27.9	10.8	N	124.0	48.0
TEMP	(R)	671.0	1111.7	(K)	372.8	617.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.039	KG/M3	1.077	0.619	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	965.3	992.8	M/S	294.2	302.6	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	62.4	61.7	66.4	67.5	66.2	65.6	66.1	66.2	70.1	84.3
.125	64.2	66.7	69.5	68.9	67.7	68.6	69.1	69.3	73.0	87.0
.160	64.4	68.1	70.0	70.5	70.0	69.1	68.9	72.0	76.6	88.6
.200	67.9	70.0	71.2	73.3	72.1	72.5	74.5	74.2	76.6	91.0
.250	70.1	73.1	74.0	74.1	75.3	76.4	75.5	79.5	81.4	94.2
.315	73.4	76.0	76.0	76.1	76.3	76.1	76.8	79.2	84.5	95.6
.400	77.9	77.1	76.3	76.6	76.5	76.7	79.1	80.6	87.3	97.1
.500	78.0	76.7	76.4	77.2	78.2	80.1	81.9	85.0	87.7	98.9
.630	76.4	77.9	78.7	79.9	80.7	81.9	82.6	85.3	89.9	100.4
.800	79.4	79.6	80.4	81.6	82.1	82.6	84.3	87.3	90.8	101.8
1.00	79.9	78.9	79.9	81.3	82.5	83.4	85.1	87.9	91.2	102.2
1.25	79.6	80.6	80.6	82.4	83.7	84.9	86.1	88.7	91.1	103.0
1.60	80.6	81.2	81.6	83.4	84.8	85.3	86.8	88.9	90.6	103.5
2.00	81.3	81.6	82.2	83.8	85.4	86.4	87.5	89.3	90.1	104.0
2.50	82.1	82.1	82.4	84.3	85.4	86.4	87.5	89.1	89.2	104.0
3.15	81.8	82.4	82.8	84.5	85.7	86.5	87.6	88.5	87.9	103.9
4.00	82.4	82.4	82.8	84.6	86.1	87.0	87.4	88.4	86.9	103.9
5.00	82.8	83.3	83.1	85.2	86.3	87.1	87.5	87.3	85.3	103.9
6.30	82.9	82.9	83.5	85.1	86.1	86.5	86.7	85.9	83.7	103.4
8.00	84.3	83.6	83.8	85.5	86.4	86.8	86.2	85.4	82.4	103.6
10.0	84.4	84.0	83.8	84.8	85.6	86.0	85.0	84.0	80.8	103.0
12.5	83.5	83.6	83.5	84.6	85.5	85.4	84.1	82.5	79.5	102.5
16.0	83.7	83.3	83.0	85.1	86.0	85.1	83.1	81.2	78.0	102.3
20.0	83.6	83.3	83.6	84.8	85.2	84.2	81.7	79.4	76.0	101.8
25.0	83.5	83.6	83.5	84.5	85.2	83.4	80.4	78.5	75.0	101.6
31.5	83.6	83.1	83.3	83.7	84.4	82.4	79.4	77.0	73.2	100.9
40.0	83.7	83.3	82.9	83.9	83.8	82.0	78.6	76.2	72.5	100.7
50.0	83.0	82.5	82.5	83.0	82.2	80.4	77.8	75.1	71.5	99.7
63.0	81.8	81.9	81.9	82.3	82.0	79.8	77.2	74.4	70.8	99.1
80.0	81.5	81.0	81.2	81.7	81.6	79.7	76.9	74.1	70.3	98.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	96.0	96.0	96.1	97.5	98.3	98.4	98.5	99.5	100.7	OAPWL = 116.1

V_∞ =	99	fps
T_a =	67	°F
RH_a =	68	%
P_a =	14.65	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR 1
W631 315 05/07/76 -00 000000 XARF 0 3371 3371 1

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	94.3	80.1	95.8	98.3	83.6	94.7	108.5	105.0	105.6
125	75.6	84.5	95.1	83.0	85.6	85.8	96.7	103.8	104.0
160	79.3	83.9	81.9	84.3	82.0	78.6	103.1	103.1	105.6
200	80.1	80.7	82.7	82.4	92.8	92.9	104.2	101.6	107.7
250	82.7	83.8	81.9	83.7	83.4	82.2	102.7	101.0	111.5
315	82.7	84.6	83.3	82.4	82.9	82.6	100.4	99.5	113.8
400	82.1	83.7	79.7	81.8	83.3	82.7	100.0	98.3	111.8
500	82.3	82.1	79.9	83.2	83.8	85.3	98.0	98.7	104.1
630	83.3	83.4	83.2	85.1	85.2	87.9	97.7	98.5	101.4
800	84.3	84.1	84.9	87.1	89.0	90.3	97.5	98.8	100.7
1000	83.9	84.1	84.6	86.5	87.9	89.5	97.4	98.3	99.2
1250	84.9	85.3	85.8	87.4	89.4	91.9	97.5	98.4	97.6
1600	87.3	87.1	87.6	89.4	90.6	92.7	98.2	98.8	97.0
2000	87.7	88.4	88.9	90.9	92.7	95.1	99.2	99.5	96.5
2500	89.8	89.6	89.8	91.7	93.7	96.6	99.9	99.7	96.1
3150	89.9	90.6	91.1	93.1	95.2	98.0	101.1	99.4	95.6
4000	90.9	91.6	92.2	94.7	97.0	100.6	102.3	100.2	95.7
5000	92.1	93.2	93.7	96.3	98.9	102.4	103.2	100.5	96.4
6300	93.1	94.1	94.7	97.5	100.1	103.7	103.8	101.1	97.0
8000	94.5	94.6	95.8	98.7	101.8	105.2	104.5	102.3	97.7
10000	96.2	96.4	97.0	99.7	102.8	105.8	105.2	103.6	98.5
12500	99.7	99.0	98.9	101.0	103.6	106.2	105.4	104.4	100.1
16000	106.8	103.4	101.2	102.4	104.6	106.7	106.6	105.2	101.1
20000	109.7	107.6	103.6	102.9	104.6	106.2	105.9	104.9	101.0
25000	108.8	109.2	107.0	105.6	106.1	106.2	106.1	105.9	101.6
31500	106.2	107.4	107.8	107.7	106.9	106.6	105.8	105.5	101.7
40000	106.8	106.6	107.0	108.3	108.3	107.1	105.6	104.9	101.4
50000	106.7	107.0	107.1	108.9	109.1	108.4	105.9	104.6	100.8
63000	106.0	107.2	107.6	108.8	109.6	109.4	106.7	104.9	101.0
80000	106.4	107.0	107.7	108.6	109.6	109.4	107.5	105.9	102.1
TSPL	116.7	116.5	116.0	116.8	117.6	118.2	118.6	117.5	119.6
SSPL	116.6	116.4	115.9	116.8	117.6	118.2	117.5	116.4	113.6

V_∞ =	425	fps
T_a =	64	°F
RH_a =	64	%
P_a =	13.30	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	92.	100.	108.	117.	127.	137.	147.	157.	165.
TSPL	119.2	118.1	116.8	116.8	116.7	116.5	116.3	115.5	119.5
SSPL	119.1	118.1	116.8	116.7	116.7	116.5	115.2	114.5	113.5

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	78.	87.	98.	109.	122.	135.	149.	159.
TSPL	119.7	118.2	116.4	115.9	115.3	114.6	114.1	113.0	116.8
SSPL	119.7	118.2	116.3	115.8	115.3	114.6	113.0	111.9	110.7

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3371 3371

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	97.3	82.6	98.2	95.0	81.1	89.8	100.5	103.8	100.6
125	78.6	88.4	93.5	81.1	83.3	81.8	88.4	95.3	99.7
160	82.4	85.4	82.2	83.0	79.4	74.3	90.7	100.3	99.0
200	83.2	82.5	82.7	82.6	90.8	89.0	96.4	99.2	97.8
250	85.7	85.0	82.1	82.6	81.0	77.9	91.8	98.5	97.6
315	85.7	86.0	82.9	81.2	80.5	78.4	90.4	96.0	96.5
400	85.1	84.7	79.7	80.9	80.9	78.6	90.2	95.4	95.2
500	85.4	83.1	80.4	82.3	81.5	81.2	89.6	94.3	95.0
630	86.3	84.8	83.6	84.0	82.9	83.8	90.3	94.0	94.5
800	87.4	85.5	85.4	86.3	86.8	86.5	90.9	93.8	94.7
1000	86.9	85.6	85.1	85.6	85.6	85.6	90.6	93.6	94.1
1250	87.9	86.8	86.2	86.5	87.1	88.1	91.5	93.7	94.0
1600	90.3	88.6	88.0	88.5	88.4	88.9	92.2	94.3	94.3
2000	90.8	90.0	89.4	90.1	90.5	91.3	93.7	95.1	94.9
2500	92.8	91.0	90.2	90.9	91.5	92.8	94.7	95.6	95.0
3150	92.9	92.2	91.6	92.3	93.0	94.2	96.1	96.3	94.6
4000	93.9	93.1	92.8	93.9	94.8	96.8	97.8	97.3	95.4
5000	95.1	94.7	94.2	95.6	96.7	98.7	99.1	98.0	95.7
6300	96.1	95.7	95.4	96.8	98.0	100.0	99.9	98.5	96.2
8000	97.5	96.1	96.5	98.1	99.7	101.6	100.8	99.3	97.5
10000	99.2	97.9	97.6	99.1	100.6	102.2	101.4	100.2	98.7
12500	102.7	100.3	99.3	100.3	101.5	102.6	101.6	100.6	99.6
16000	109.8	104.1	101.2	101.5	102.4	103.1	102.6	101.7	100.4
20000	112.7	108.2	103.0	101.8	102.3	102.7	101.9	101.1	100.1
25000	111.8	110.3	106.4	104.3	103.7	102.7	101.9	101.6	101.1
31500	109.2	109.0	107.8	106.3	104.4	103.2	101.8	101.2	100.8
40000	109.8	108.1	107.3	107.2	105.9	103.9	101.9	100.8	100.2
50000	109.7	108.5	107.5	107.9	106.7	105.2	102.6	100.8	99.9
63000	109.1	108.7	107.8	107.7	107.2	106.1	103.5	101.5	100.2
80000	109.4	108.6	107.9	107.6	107.2	106.1	104.0	102.4	101.1
TSPL	119.7	117.8	116.1	115.8	115.2	114.8	113.9	113.9	113.0
SSPL	119.7	117.8	116.0	115.7	115.2	114.7	113.6	112.7	111.7

V_{∞} =	425	fps
T_a =	64	°F
RH_a =	64	%
P_a =	13.30	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=425 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3371 CONDITION 3371

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.51	3.21		1.51	3.21	THRUST,IDL	LB	25.3	59.1	N	112.5	263.0
TEMP	(R)	700.3	1271.3	(K)	389.1	706.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.064	0.043	KG/M3	1.027	0.683	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	969.4	2092.0	M/S	295.5	637.6	W (MODEL)	LB/S	0.8	0.9	KG/S	0.4	0.4

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	97.3	82.6	98.2	95.0	81.1	89.8	100.5	103.8	100.6	116.0
.125	78.6	88.4	93.5	81.1	83.3	81.8	88.4	95.3	99.7	109.3
.160	82.4	85.4	82.2	83.0	79.4	74.3	90.7	100.3	99.0	110.2
.200	83.2	82.5	82.7	82.6	90.8	89.0	96.4	99.2	97.8	111.0
.250	85.7	85.0	82.1	82.6	81.0	77.9	91.8	98.5	97.6	109.1
.315	85.7	86.0	82.9	81.2	80.5	78.4	90.4	96.0	96.5	107.4
.400	85.1	84.7	79.7	80.9	80.9	78.6	90.2	95.4	95.2	106.7
.500	85.4	83.1	80.4	82.3	81.5	81.2	89.6	94.3	95.0	106.1
.630	86.3	84.8	83.6	84.0	82.9	83.8	90.3	94.0	94.5	106.5
.800	87.4	85.5	85.4	86.3	86.8	86.5	90.9	93.8	94.7	107.3
1.00	86.9	85.6	85.1	85.6	85.6	85.6	90.6	93.6	94.1	106.9
1.25	87.9	86.8	86.2	86.5	87.1	88.1	91.5	93.7	94.0	107.6
1.60	90.3	88.6	88.0	88.5	88.4	88.9	92.2	94.3	94.3	108.7
2.00	90.8	90.0	89.4	90.1	90.5	91.3	93.7	95.1	94.9	110.0
2.50	92.8	91.0	90.2	90.9	91.5	92.8	94.7	95.6	95.0	111.0
3.15	92.9	92.2	91.6	92.3	93.0	94.2	96.1	96.3	94.6	112.1
4.00	93.9	93.1	92.8	93.9	94.8	96.8	97.8	97.3	95.4	113.6
5.00	95.1	94.7	94.2	95.6	96.7	98.7	99.1	98.0	95.7	115.0
6.30	96.1	95.7	95.4	96.8	98.0	100.0	99.9	98.5	96.2	116.1
8.00	97.5	96.1	96.5	98.1	99.7	101.6	100.8	99.3	97.5	117.3
10.0	99.2	97.9	97.6	99.1	100.6	102.2	101.4	100.2	98.7	118.2
12.5	102.7	100.3	99.3	100.3	101.5	102.6	101.6	100.6	99.6	119.4
16.0	109.8	104.1	101.2	101.5	102.4	103.1	102.6	101.7	100.4	121.9
20.0	112.7	108.2	103.0	101.8	102.3	102.7	101.9	101.1	100.1	123.8
25.0	111.8	110.3	106.4	104.3	103.7	102.7	101.9	101.6	101.1	124.8
31.5	109.2	109.0	107.8	106.3	104.4	103.2	101.8	101.2	100.8	124.5
40.0	109.8	108.1	107.3	107.2	105.9	103.9	101.9	100.8	100.2	124.6
50.0	109.7	108.5	107.5	107.9	106.7	105.2	102.6	100.8	99.9	125.1
63.0	109.1	108.7	107.8	107.7	107.2	106.1	103.5	101.5	100.2	125.3
80.0	109.4	108.6	107.9	107.6	107.2	106.1	104.0	102.4	101.1	125.3
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	119.7	117.8	116.1	115.8	115.2	114.8	113.9	113.9	113.0	

OAPWL = 134.3

V_∞ =	425	fps
T_a =	64	°F
RH_a =	64	%
P_a =	13.30	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3372 3372

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	94.6	93.4	95.9	82.1	86.7	94.6	101.1	100.9	106.1
125	83.6	82.6	82.2	88.0	87.8	86.6	99.8	100.0	105.5
160	83.1	81.3	77.7	86.5	85.2	78.6	104.0	100.0	106.5
200	90.2	92.2	90.3	83.9	79.5	92.5	105.2	97.4	107.9
250	81.5	77.4	80.0	83.7	83.9	82.2	103.0	96.8	111.7
315	78.9	80.5	78.5	81.2	82.0	79.9	100.7	95.1	114.2
400	77.4	78.4	77.0	81.4	81.5	81.0	99.8	93.6	112.3
500	78.0	77.0	75.1	81.6	81.8	82.0	97.6	93.8	103.3
630	78.3	78.8	79.7	82.3	82.0	83.8	97.7	93.6	99.5
800	79.9	78.7	80.4	83.4	84.6	85.7	96.4	93.5	97.7
1000	78.6	80.2	80.7	82.9	84.1	85.5	95.4	93.0	95.9
1250	80.4	80.4	81.5	83.7	85.6	87.7	95.3	93.4	94.1
1600	83.1	83.3	83.9	85.6	86.8	88.7	95.1	93.9	93.6
2000	83.9	84.8	85.4	87.3	88.7	90.9	95.7	94.8	93.4
2500	85.9	86.0	86.4	88.0	89.5	92.3	96.0	95.3	93.5
3150	86.4	87.4	87.7	89.5	91.0	93.8	97.0	95.3	92.9
4000	87.1	88.1	88.7	90.6	93.2	96.5	98.3	96.3	92.7
5000	88.5	89.8	90.2	92.6	95.1	98.4	99.5	96.8	93.3
6300	89.5	90.5	91.4	93.7	96.3	99.4	100.1	97.2	93.7
8000	90.9	90.8	92.3	94.8	97.6	101.1	100.3	98.4	94.2
10000	91.2	91.9	92.8	95.6	98.4	101.3	100.5	99.0	94.6
12500	91.3	92.2	93.1	96.3	99.0	101.0	100.4	99.1	95.2
16000	92.2	92.9	94.0	96.8	99.6	101.4	100.8	99.6	95.6
20000	93.0	93.3	94.0	96.6	99.6	100.9	99.9	99.3	95.5
25000	96.0	95.1	94.5	97.2	100.0	100.7	99.5	99.3	95.8
31500	98.8	97.6	96.3	97.3	99.4	100.4	99.1	98.4	95.1
40000	99.2	98.8	98.1	98.3	99.4	100.0	98.7	97.5	94.8
50000	98.3	98.5	98.8	99.8	99.8	99.9	98.4	97.4	94.1
63000	98.5	98.8	99.0	99.9	100.4	100.2	98.2	97.6	94.3
80000	99.6	99.7	100.0	100.5	101.2	101.0	99.1	98.4	95.8
TSPL	107.7	107.6	107.8	109.0	110.7	112.2	114.6	112.2	119.3
SSPL	107.3	107.3	107.4	108.9	110.6	112.0	112.2	110.7	109.7

V_∞ =	425	fps
T_a =	63	°F
RH_a =	68	%
P_a =	13.30	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	92.	100.	108.	117.	127.	137.	147.	157.	165.
TSPL	110.2	109.3	108.6	108.9	109.8	110.5	112.3	110.2	119.2
SSPL	109.8	109.0	108.2	108.8	109.7	110.3	109.9	108.7	109.6

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	78.	87.	98.	109.	122.	135.	149.	159.
TSPL	110.7	109.4	108.2	108.0	108.4	108.6	110.1	107.7	116.5
SSPL	110.4	109.0	107.8	107.9	108.3	108.4	107.7	106.2	106.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3372 3372

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	97.6	95.2	93.1	80.3	84.9	90.3	95.1	96.6	97.1
125	86.6	83.9	83.4	87.2	85.3	82.7	91.2	96.0	96.2
160	86.1	82.0	79.3	85.9	82.5	74.5	91.5	99.8	96.1
200	93.2	93.6	88.8	81.4	77.5	87.5	98.0	98.4	93.8
250	84.5	78.8	81.1	82.8	81.4	77.9	92.3	97.1	93.7
315	81.9	81.7	78.9	80.3	79.6	75.7	90.0	94.8	92.4
400	80.4	79.6	77.8	80.6	79.1	76.8	89.9	93.6	90.9
500	81.0	78.0	76.3	80.9	79.4	77.9	88.6	92.4	90.2
630	81.4	80.4	80.4	81.2	79.7	79.6	89.3	92.5	89.6
800	82.9	80.3	81.1	82.6	82.3	81.8	89.0	91.4	89.5
1000	81.7	81.8	81.2	82.0	81.8	81.5	88.2	90.6	88.9
1250	83.4	82.0	82.0	82.9	83.4	83.8	88.8	90.6	89.1
1600	86.1	84.8	84.3	84.6	84.6	84.8	88.9	90.6	89.5
2000	86.9	86.4	85.8	86.4	86.5	87.1	90.0	91.2	90.3
2500	88.9	87.5	86.7	87.0	87.3	88.5	90.7	91.5	90.8
3150	89.4	88.9	88.1	88.6	88.7	90.0	92.0	92.2	90.7
4000	90.1	89.7	89.1	89.9	91.1	92.7	93.8	93.3	91.5
5000	91.5	91.4	90.7	91.9	92.9	94.7	95.3	94.2	92.0
6300	92.5	92.2	91.9	93.0	94.1	95.8	96.0	94.7	92.4
8000	93.9	92.4	92.9	94.1	95.5	97.5	96.6	95.2	93.6
10000	94.2	93.5	93.4	95.0	96.3	97.7	96.8	95.6	94.1
12500	94.3	93.8	93.8	95.7	96.8	97.5	96.6	95.5	94.4
16000	95.2	94.6	94.7	96.2	97.3	97.8	97.0	96.0	94.8
20000	96.0	94.8	94.6	96.0	97.3	97.4	96.1	95.2	94.5
25000	99.0	96.3	95.0	96.6	97.8	97.3	95.7	94.9	94.7
31500	101.8	98.7	96.3	96.4	97.1	96.9	95.4	94.3	93.7
40000	102.2	100.1	98.1	97.2	97.1	96.6	95.0	93.7	92.9
50000	101.3	100.0	99.0	98.6	97.4	96.5	94.7	93.5	92.7
63000	101.5	100.3	99.2	98.8	98.1	96.9	94.7	93.4	92.9
80000	102.6	101.2	100.1	99.4	98.8	97.7	95.6	94.2	93.8
TSPL	110.7	109.1	107.9	108.1	108.4	108.6	108.9	109.5	107.9
SSPL	110.3	108.7	107.7	108.0	108.3	108.5	107.9	107.3	106.1

V_∞ =	425	fps
T_a =	63	°F
RH_a =	68	%
P_a =	13.30	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=425 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3372 CONDITION 3372

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			1.53	2.49		1.53	2.49	THRUST,IDL	LB	26.0	41.1	N		115.6	182.6
TEMP	(R)	688.2	1245.0	(K)	382.3	691.7		THRUST,MEA	LB	0.0		N		0.0	
RHO	LB/FT3	0.065	0.041	KG/M3	1.048	0.654		AREA (MOD)	SQFT	0.02	0.01	SQM		0.001	0.001
VEL	FPS	972.7	1862.0	M/S	296.5	567.5		W (MODEL)	LB/S	0.9	0.7	KG/S		0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	97.6	95.2	93.1	80.3	84.9	90.3	95.1	96.6	97.1	112.0
.125	86.6	83.9	83.4	87.2	85.3	82.7	91.2	96.0	96.2	107.9
.160	86.1	82.0	79.3	85.9	82.5	74.5	91.5	99.8	96.1	109.6
.200	93.2	93.6	88.8	81.4	77.5	87.5	98.0	98.4	93.8	111.5
.250	84.5	78.8	81.1	82.8	81.4	77.9	92.3	97.1	93.7	107.6
.315	81.9	81.7	78.9	80.3	79.6	75.7	90.0	94.8	92.4	105.6
.400	80.4	79.6	77.8	80.6	79.1	76.8	89.9	93.6	90.9	104.6
.500	81.0	78.0	76.3	80.9	79.4	77.9	88.6	92.4	90.2	103.6
.630	81.4	80.4	80.4	81.2	79.7	79.6	89.3	92.5	89.6	104.1
.800	82.9	80.3	81.1	82.6	82.3	81.8	89.0	91.4	89.5	103.9
1.00	81.7	81.8	81.2	82.0	81.8	81.5	88.2	90.6	88.9	103.4
1.25	83.4	82.0	82.0	82.9	83.4	83.8	88.8	90.6	89.1	104.0
1.60	86.1	84.8	84.3	84.6	84.6	84.8	88.9	90.6	89.5	104.9
2.00	86.9	86.4	85.8	86.4	86.5	87.1	90.0	91.2	90.3	106.2
2.50	88.9	87.5	86.7	87.0	87.3	88.5	90.7	91.5	90.8	107.0
3.15	89.4	88.9	88.1	88.6	88.7	90.0	92.0	92.2	90.7	108.2
4.00	90.1	89.7	89.1	89.9	91.1	92.7	93.8	93.3	91.5	109.7
5.00	91.5	91.4	90.7	91.9	92.9	94.7	95.3	94.2	92.0	111.3
6.30	92.5	92.2	91.9	93.0	94.1	95.8	96.0	94.7	92.4	112.2
8.00	93.9	92.4	92.9	94.1	95.5	97.5	96.6	95.2	93.6	113.3
10.0	94.2	93.5	93.4	95.0	96.3	97.7	96.8	95.6	94.1	113.8
12.5	94.3	93.8	93.8	95.7	96.8	97.5	96.6	95.5	94.4	114.0
16.0	95.2	94.6	94.7	96.2	97.3	97.8	97.0	96.0	94.8	114.5
20.0	96.0	94.8	94.6	96.0	97.3	97.4	96.1	95.2	94.5	114.3
25.0	99.0	96.3	95.0	96.6	97.8	97.3	95.7	94.9	94.7	114.9
31.5	101.8	98.7	96.3	96.4	97.1	96.9	95.4	94.3	93.7	115.6
40.0	102.2	100.1	98.1	97.2	97.1	96.6	95.0	93.7	92.9	116.2
50.0	101.3	100.0	99.0	98.6	97.4	96.5	94.7	93.5	92.7	116.4
63.0	101.5	100.3	99.2	98.8	98.1	96.9	94.7	93.4	92.9	116.7
80.0	102.6	101.2	100.1	99.4	98.8	97.7	95.6	94.2	93.8	117.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	110.7	109.1	107.9	108.1	108.4	108.6	108.9	109.5	107.9	OAPWL = 127.1

V_∞ =	425	fps
T_a =	63	°F
RH_a =	68	%
P_a =	13.30	psia

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00	000000	XARF	0	3373	3373

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	78.6	80.6	89.9	81.6	81.7	78.7	95.8	94.0	102.3
125	80.4	81.6	88.8	83.2	80.3	80.8	101.0	91.5	101.0
160	79.2	80.6	85.0	80.5	78.4	80.6	94.0	91.4	101.0
200	77.9	79.5	84.8	80.5	75.2	81.5	94.7	89.5	102.0
250	77.2	81.0	83.7	80.4	81.6	81.4	89.7	89.5	105.3
315	78.4	81.2	83.3	80.3	79.7	80.8	89.8	89.4	108.3
400	79.4	79.4	80.1	79.7	80.5	81.0	90.3	88.9	108.4
500	77.6	77.7	80.5	79.8	81.5	83.4	89.9	91.8	99.0
630	79.1	80.0	77.6	82.3	83.1	85.7	91.2	93.0	96.2
800	81.5	81.4	81.9	85.1	86.5	88.1	91.8	94.5	96.5
1000	81.5	82.4	82.0	84.8	86.2	88.2	92.2	94.7	95.4
1250	82.8	83.3	83.4	85.9	87.8	90.4	93.6	95.6	94.7
1600	84.6	85.4	85.6	87.6	89.0	91.2	94.9	96.2	94.3
2000	85.9	86.8	87.2	89.3	90.6	93.2	96.3	97.2	94.0
2500	87.6	87.9	87.8	90.0	91.8	94.3	97.1	97.5	93.4
3150	88.0	89.0	89.3	91.3	93.0	95.9	98.4	97.2	93.1
4000	88.8	89.8	90.3	92.6	94.9	98.4	99.7	98.4	93.3
5000	90.1	91.3	91.7	94.3	96.7	100.2	101.1	98.9	94.2
6300	90.7	91.8	92.6	95.3	97.6	101.2	101.4	99.2	94.8
8000	92.1	92.2	93.3	96.2	99.2	102.5	102.1	100.4	95.4
10000	92.2	93.2	93.9	96.8	99.7	102.6	102.4	101.0	95.9
12500	92.2	93.3	94.2	97.3	100.3	102.7	102.3	101.1	96.5
16000	93.0	93.8	94.7	98.0	100.8	102.9	102.9	101.5	96.9
20000	93.4	93.9	94.5	97.8	100.8	102.4	102.0	101.2	96.9
25000	96.2	95.5	95.0	98.1	101.3	102.1	101.8	101.8	97.2
31500	99.2	97.9	96.3	98.0	100.3	101.7	100.9	100.6	96.9
40000	99.5	99.5	98.2	98.6	100.2	100.9	100.1	99.7	96.3
50000	98.5	98.9	98.8	100.0	100.1	100.7	99.5	98.6	95.3
63000	98.5	98.9	98.8	100.1	100.8	100.8	99.1	98.3	94.7
80000	99.9	99.8	99.6	100.5	101.4	101.2	99.5	98.5	95.6
TSPL	107.8	107.9	107.9	109.6	111.6	113.3	113.7	112.7	115.0
SSPL	107.8	107.9	107.7	109.6	111.6	113.3	113.3	112.5	109.4

V_∞ =	340	fps
T_a =	63	°F
RH_a =	71	%
P_a =	13.81	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3373 3373

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	109.6	109.1	108.5	109.5	110.8	111.9	111.8	110.9	114.7
SSPL	109.6	109.1	108.2	109.5	110.8	111.9	111.3	110.7	109.1

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	110.2	109.3	108.2	108.8	109.7	110.5	110.0	108.9	112.5
SSPL	110.1	109.2	108.0	108.8	109.7	110.5	109.5	108.7	106.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3373 3373

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	81.0	82.9	89.3	79.8	79.7	75.4	87.8	92.1	91.4
125	82.8	83.6	88.5	81.3	78.4	77.1	92.7	94.3	88.6
160	81.5	82.3	84.6	78.7	76.5	77.1	87.1	89.5	88.9
200	80.3	81.4	84.6	78.3	73.4	77.7	88.2	88.9	87.2
250	79.6	82.7	83.3	79.2	79.7	78.3	84.0	85.3	87.9
315	80.8	82.8	83.0	78.9	77.8	77.6	84.0	85.1	88.1
400	81.7	80.6	80.1	78.8	78.6	77.8	84.4	85.2	87.6
500	80.0	79.1	80.6	78.9	79.7	80.2	84.5	86.8	89.2
630	81.4	81.0	78.2	81.7	81.2	82.5	86.1	88.2	89.9
800	83.8	82.5	82.5	84.5	84.6	85.1	87.2	89.2	91.3
1000	83.8	83.6	82.5	84.2	84.3	85.1	87.4	89.6	91.3
1250	85.2	84.5	83.9	85.3	85.9	87.4	89.2	90.8	92.0
1600	86.9	86.7	85.9	86.9	87.2	88.1	90.4	92.0	92.4
2000	88.3	88.1	87.6	88.6	88.8	90.2	91.9	93.2	93.2
2500	90.0	89.1	88.2	89.4	90.0	91.2	92.9	93.9	93.4
3150	90.3	90.2	89.7	90.7	91.2	92.8	94.3	94.5	93.1
4000	91.1	91.1	90.7	92.0	93.1	95.4	96.0	95.7	94.1
5000	92.5	92.5	92.2	93.8	94.8	97.1	97.5	96.7	94.6
6300	93.1	93.1	93.2	94.8	95.8	98.2	98.1	96.9	94.9
8000	94.4	93.4	93.9	95.8	97.4	99.6	98.9	97.8	96.1
10000	94.6	94.4	94.4	96.4	97.9	99.7	99.1	98.3	96.7
12500	94.6	94.6	94.8	97.0	98.4	99.8	99.0	98.1	96.8
16000	95.3	95.1	95.3	97.6	99.0	100.0	99.5	98.7	97.2
20000	95.7	95.1	95.1	97.5	99.0	99.6	98.7	98.0	97.0
25000	98.5	96.5	95.4	97.8	99.4	99.3	98.3	98.2	97.6
31500	101.6	98.8	96.4	97.4	98.4	98.9	97.6	97.0	96.5
40000	101.9	100.5	98.2	97.8	98.4	98.2	96.9	96.2	95.7
50000	100.9	100.1	99.0	99.1	98.2	98.0	96.4	95.4	94.6
63000	100.9	100.1	99.1	99.3	98.9	98.1	96.1	95.0	94.2
80000	102.2	100.9	99.7	99.7	99.5	98.6	96.5	95.2	94.5
TSPL	110.2	109.1	108.2	109.0	109.7	110.5	110.0	109.6	108.7
SSPL	110.1	109.0	108.0	109.0	109.7	110.5	109.8	109.3	108.4

V_∞ =	340	fps
T_a =	63	°F
RH_a =	71	%
P_a =	13.81	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3373 CONDITION 3373

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	2.50		1.52	2.50	THRUST,IDL	LB	26.2	42.7	N	116.5	189.9
TEMP	(R)	696.0	1270.0	(K)	386.7	705.6	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.065	0.040	KG/M3	1.034	0.641	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	969.1	1883.0	M/S	295.4	573.9	W (MODEL)	LB/S	0.9	0.7	KG/S	0.4	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	81.0	82.9	89.3	79.8	79.7	75.4	87.8	92.1	91.4	104.9
.125	82.8	83.6	88.5	81.3	78.4	77.1	92.7	94.3	88.6	106.5
.160	81.5	82.3	84.6	78.7	76.5	77.1	87.1	89.5	88.9	102.6
.200	80.3	81.4	84.6	78.3	73.4	77.7	88.2	88.9	87.2	102.3
.250	79.6	82.7	83.3	79.2	79.7	78.3	84.0	85.3	87.9	100.8
.315	80.8	82.8	83.0	78.9	77.8	77.6	84.0	85.1	88.1	100.7
.400	81.7	80.6	80.1	78.8	78.6	77.8	84.4	85.2	87.6	100.1
.500	80.0	79.1	80.6	78.9	79.7	80.2	84.5	86.8	89.2	100.8
.630	81.4	81.0	78.2	81.7	81.2	82.5	86.1	88.2	89.9	102.1
.800	83.8	82.5	82.5	84.5	84.6	85.1	87.2	89.2	91.3	104.0
1.00	83.8	83.6	82.5	84.2	84.3	85.1	87.4	89.6	91.3	104.2
1.25	85.2	84.5	83.9	85.3	85.9	87.4	89.2	90.8	92.0	105.6
1.60	86.9	86.7	85.9	86.9	87.2	88.1	90.4	92.0	92.4	106.8
2.00	88.3	88.1	87.6	88.6	88.8	90.2	91.9	93.2	93.2	108.3
2.50	90.0	89.1	88.2	89.4	90.0	91.2	92.9	93.9	93.4	109.2
3.15	90.3	90.2	89.7	90.7	91.2	92.8	94.3	94.5	93.1	110.3
4.00	91.1	91.1	90.7	92.0	93.1	95.4	96.0	95.7	94.1	111.8
5.00	92.5	92.5	92.2	93.8	94.8	97.1	97.5	96.7	94.6	113.3
6.30	93.1	93.1	93.2	94.8	95.8	98.2	98.1	96.9	94.9	114.1
8.00	94.4	93.4	93.9	95.8	97.4	99.6	98.9	97.8	96.1	115.2
10.0	94.6	94.4	94.4	96.4	97.9	99.7	99.1	98.3	96.7	115.6
12.5	94.6	94.6	94.8	97.0	98.4	99.8	99.0	98.1	96.8	115.7
16.0	95.3	95.1	95.3	97.6	99.0	100.0	99.5	98.7	97.2	116.2
20.0	95.7	95.1	95.1	97.5	99.0	99.6	98.7	98.0	97.0	115.9
25.0	98.5	96.5	95.4	97.8	99.4	99.3	98.3	98.2	97.6	116.3
31.5	101.6	98.8	96.4	97.4	98.4	98.9	97.6	97.0	96.5	116.5
40.0	101.9	100.5	98.2	97.8	98.4	98.2	96.9	96.2	95.7	116.9
50.0	100.9	100.1	99.0	99.1	98.2	98.0	96.4	95.4	94.6	116.9
63.0	100.9	100.1	99.1	99.3	98.9	98.1	96.1	95.0	94.2	117.0
80.0	102.2	100.9	99.7	99.7	99.5	98.6	96.5	95.2	94.5	117.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	110.2	109.1	108.2	109.0	109.8	110.5	110.0	109.6	108.7	OAPWL = 127.8

V_∞ =	340	fps
T_a =	63	°F
RH_a =	71	%
P_a =	13.81	psia

A2-177

DECK	LD	DATE	ENG	MOD	ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00	000000	XARF	0	3374	3374

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.8	79.6	89.5	75.5	80.6	78.7	95.8	92.3	102.5
125	79.4	80.4	88.6	80.8	77.7	80.8	102.4	91.2	101.0
160	79.2	80.6	84.8	77.5	76.5	80.6	83.1	90.5	100.7
200	75.2	76.8	84.4	76.8	86.6	80.2	90.3	89.2	101.9
250	76.0	78.9	82.4	76.3	76.5	78.5	86.0	86.8	105.6
315	76.4	77.3	81.5	75.7	74.9	77.2	75.6	85.4	107.9
400	75.3	76.6	78.7	75.9	74.7	77.3	82.3	84.3	108.0
500	73.7	74.9	78.6	75.0	77.1	78.7	80.0	87.0	97.7
630	74.4	75.8	79.0	78.0	78.3	81.0	85.2	87.2	91.4
800	77.0	76.6	72.6	79.4	81.2	83.0	86.8	88.7	90.6
1000	76.7	77.8	75.6	80.0	81.1	82.9	86.7	88.7	89.2
1250	77.6	78.9	77.9	80.9	82.5	85.0	87.8	89.3	88.2
1600	79.7	80.7	80.0	82.5	84.0	85.7	88.9	89.5	87.2
2000	81.0	81.8	81.7	84.2	85.4	87.3	89.9	90.2	87.1
2500	82.4	82.8	82.7	84.9	86.4	88.5	90.5	90.3	86.3
3150	82.8	83.7	84.0	86.1	87.3	89.3	91.3	89.9	85.6
4000	83.6	84.5	85.0	87.1	89.0	91.1	92.1	90.3	85.2
5000	85.4	86.4	86.6	88.8	90.5	92.7	93.2	90.3	85.8
6300	85.8	86.8	87.5	89.6	91.3	93.5	93.2	90.2	86.2
8000	87.0	87.0	88.0	90.3	92.6	94.5	93.3	91.1	86.3
10000	86.9	87.9	88.3	90.5	92.9	94.5	93.0	91.1	86.4
12500	86.9	87.8	88.7	91.2	93.1	94.4	92.6	90.8	86.6
16000	87.6	88.3	89.0	91.7	93.8	94.7	92.8	90.6	86.4
20000	87.0	88.0	88.5	91.1	93.4	94.1	91.9	89.8	85.5
25000	86.6	87.8	88.3	90.9	93.5	93.5	91.7	89.9	85.0
31500	86.2	87.3	88.2	90.5	92.5	92.8	90.8	88.7	84.4
40000	86.2	87.2	88.1	90.1	91.8	92.1	90.1	88.0	84.0
50000	86.1	87.0	88.0	90.4	91.2	91.5	89.7	87.6	83.9
63000	86.0	87.5	88.2	90.0	91.1	91.3	89.2	87.8	84.5
80000	87.5	87.9	89.0	90.4	91.3	91.5	89.3	89.0	87.0
TSPL	99.0	99.6	101.0	102.3	104.2	105.2	107.1	104.3	113.7
SSPL	98.4	99.3	100.0	102.2	104.0	105.1	104.4	103.2	102.3

V_∞ =	339	fps
T_a =	63	°F
RH_a =	71	%
P_a =	13.81	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3374 3374

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	100.9	100.8	101.5	102.2	103.3	103.8	105.1	102.5	113.5
SSPL	100.3	100.5	100.5	102.1	103.2	103.7	102.5	101.4	102.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	101.4	100.9	101.2	101.5	102.3	102.4	103.3	100.5	111.3
SSPL	100.8	100.6	100.2	101.4	102.1	102.3	100.7	99.4	99.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00 000000	XARF	0	3374	3374

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150
100	91.2	81.2	87.8	73.8	78.8	75.3	87.9	91.2	89.7
125	81.8	82.5	88.0	78.6	75.8	76.8	93.9	95.1	88.2
160	81.5	82.3	83.9	75.6	74.7	77.5	78.5	81.6	88.5
200	77.5	78.9	83.6	76.4	84.7	77.5	84.0	85.9	87.1
250	78.4	80.7	81.6	74.7	74.6	75.3	80.5	81.7	85.5
315	78.8	79.0	80.9	74.0	73.0	74.4	71.9	73.8	85.1
400	77.7	78.1	78.4	74.4	72.8	74.2	77.4	77.9	83.8
500	76.1	76.6	78.3	73.9	75.3	75.8	75.7	78.2	85.1
630	76.8	77.4	79.1	76.9	76.4	77.9	80.5	82.2	84.2
800	79.3	77.3	73.5	79.2	79.3	80.0	82.2	83.8	85.4
1000	79.1	78.8	76.2	79.5	79.2	79.9	82.1	83.9	85.2
1250	79.9	80.0	78.3	80.3	80.7	81.9	83.5	84.8	85.6
1600	82.0	81.8	80.3	81.8	82.1	82.7	84.5	85.7	85.7
2000	83.4	83.0	82.1	83.5	83.6	84.3	85.7	86.6	86.3
2500	84.8	84.0	83.1	84.3	84.6	85.5	86.5	87.0	86.2
3150	85.1	85.0	84.4	85.5	85.5	86.3	87.4	87.3	85.7
4000	85.9	85.7	85.4	86.5	87.1	88.2	88.5	87.9	85.9
5000	87.8	87.7	87.0	88.2	88.7	89.8	89.8	88.5	86.0
6300	88.1	88.0	87.9	89.0	89.5	90.6	90.0	88.4	86.0
8000	89.3	88.3	88.5	89.8	90.7	91.7	90.3	88.7	86.8
10000	89.2	89.2	88.7	90.0	91.1	91.7	90.0	88.5	86.8
12500	89.3	89.1	89.2	90.6	91.3	91.7	89.8	88.1	86.6
16000	89.9	89.6	89.5	91.2	91.9	92.0	90.0	88.2	86.4
20000	89.4	89.3	89.0	90.7	91.5	91.4	89.1	87.3	85.6
25000	88.9	89.0	88.8	90.5	91.7	90.9	88.8	87.2	85.6
31500	88.6	88.6	88.7	89.9	90.6	90.1	88.0	86.2	84.5
40000	88.6	88.5	88.5	89.5	89.9	89.5	87.2	85.4	83.8
50000	88.5	88.3	88.5	89.7	89.3	88.8	86.9	85.0	83.4
63000	88.4	88.8	88.5	89.3	89.2	88.7	86.3	84.8	83.7
80000	89.8	89.2	89.4	89.6	89.4	88.9	86.4	85.2	85.1
TSPL	101.4	100.9	101.1	101.7	102.3	102.4	102.2	102.0	100.8
SSPL	100.8	100.6	100.4	101.6	102.2	102.4	101.2	100.2	99.2

V_∞ =	339	fps
T_a =	63	°F
RH_a =	71	%
P_a =	13 81	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3374 CONDITION 3374

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	26.7	23.5	N	118.9	104.6
TEMP	(R)	608.7	1227.3	(K)	362.6	681.8	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.065	0.038	KG/M3	1.046	0.609	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	967.3	1514.0	M/S	294.8	461.5	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	91.2	81.2	87.8	73.8	78.8	75.3	87.9	91.2	89.7	104.7
.125	81.8	82.5	88.0	78.6	75.8	76.8	93.9	95.1	88.2	107.0
.160	81.5	82.3	83.9	75.6	74.7	77.5	78.5	81.6	88.5	99.6
.200	77.5	78.9	83.6	76.4	84.7	77.5	84.0	85.9	87.1	101.0
.250	78.4	80.7	81.6	74.7	74.6	75.3	80.5	81.7	85.5	98.1
.315	78.8	79.0	80.9	74.0	73.0	74.4	71.9	73.8	85.1	96.1
.400	77.7	78.1	78.4	74.4	72.8	74.2	77.4	77.9	83.8	95.6
.500	76.1	76.6	78.3	73.9	75.3	75.8	75.7	78.2	85.1	95.7
.630	76.8	77.4	79.1	76.9	76.4	77.9	80.5	82.2	84.2	97.4
.800	79.3	77.3	73.5	79.2	79.3	80.0	82.2	83.8	85.4	98.6
1.00	79.1	78.8	76.2	79.5	79.2	79.9	82.1	83.9	85.2	98.8
1.25	79.9	80.0	78.3	80.3	80.7	81.9	83.5	84.8	85.6	100.0
1.60	82.0	81.8	80.3	81.8	82.1	82.7	84.5	85.7	85.7	101.2
2.00	83.4	83.0	82.1	83.5	83.6	84.3	85.7	86.6	86.3	102.5
2.50	84.8	84.0	83.1	84.3	84.6	85.5	86.5	87.0	86.2	103.3
3.15	85.1	85.0	84.4	85.5	85.5	86.3	87.4	87.3	85.7	104.1
4.00	85.9	85.7	85.4	86.5	87.1	88.2	88.5	87.9	85.9	105.3
5.00	87.8	87.7	87.0	88.2	88.7	89.8	89.8	88.5	86.0	106.7
6.30	88.1	88.0	87.9	89.0	89.5	90.6	90.0	88.4	86.0	107.3
8.00	89.3	88.3	88.5	89.8	90.7	91.7	90.3	88.7	86.8	108.0
10.0	89.2	89.2	88.7	90.0	91.1	91.7	90.0	88.5	86.8	108.2
12.5	89.3	89.1	89.2	90.6	91.3	91.7	89.8	88.1	86.6	108.3
16.0	89.9	89.6	89.5	91.2	91.9	92.0	90.0	88.2	86.4	108.8
20.0	89.4	89.3	89.0	90.7	91.5	91.4	89.1	87.3	85.6	108.2
25.0	88.9	89.0	88.8	90.5	91.7	90.9	88.8	87.2	85.6	108.0
31.5	88.6	88.6	88.7	89.9	90.6	90.1	88.0	86.2	84.5	107.3
40.0	88.6	88.5	88.5	89.5	89.9	89.5	87.2	85.4	83.8	106.9
50.0	88.5	88.3	88.5	89.7	89.3	88.8	86.9	85.0	83.4	106.6
63.0	88.4	88.8	88.5	89.3	89.2	88.7	86.3	84.8	83.7	106.5
80.0	89.8	89.2	89.4	89.6	89.4	88.9	86.4	85.2	85.1	107.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	101.4	100.9	101.1	101.7	102.3	102.4	102.2	102.0	100.8	

DAPWL = 120.0

V_∞ =	339	fps
T_a =	63	°F
RH_a =	71	%
P_a =	13 81	psia

A2-181

C 5

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3375 3375

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.0	89.1	90.4	85.4	81.7	75.6	97.0	96.5	102.9
125	85.6	86.4	89.1	82.7	80.3	78.2	102.4	94.6	101.0
160	73.9	84.4	85.3	80.1	78.4	74.9	97.6	94.0	100.5
200	84.3	82.4	84.9	79.2	86.3	72.8	97.7	91.7	101.9
250	72.1	83.0	83.1	78.9	75.3	75.8	94.3	91.5	106.0
315	67.7	82.3	81.4	77.6	73.5	69.3	90.8	88.7	108.0
400	68.7	80.0	78.9	77.0	72.5	68.6	91.8	87.3	107.9
500	78.4	79.2	78.2	74.3	72.5	73.9	89.9	86.3	97.5
630	77.4	78.0	77.8	75.6	72.9	74.9	88.6	85.8	89.0
800	77.8	77.0	77.8	74.8	74.3	75.6	88.9	85.4	85.9
1000	78.9	76.7	78.3	74.9	74.5	76.2	87.0	84.0	84.2
1250	69.1	76.1	66.5	75.0	75.7	77.6	86.7	82.7	81.9
1600	71.7	77.0	70.9	76.3	76.8	78.2	86.0	82.4	80.6
2000	74.6	77.4	74.2	77.4	78.3	79.8	85.3	82.1	80.1
2500	75.6	77.2	75.5	78.3	79.0	80.5	85.3	82.4	79.9
3150	72.8	76.8	76.4	78.4	79.2	80.4	84.5	81.4	78.1
4000	72.8	76.8	76.6	78.6	80.1	81.4	84.8	80.4	76.8
5000	77.8	79.3	78.7	80.6	81.4	82.3	84.2	80.2	75.8
6300	78.7	79.8	79.7	81.1	81.8	82.3	83.1	79.8	74.7
8000	83.0	82.2	81.9	83.1	83.8	83.8	83.5	80.1	73.6
10000	82.3	82.1	81.2	82.4	83.3	83.4	82.1	79.3	72.4
12500	81.0	81.3	80.8	82.1	82.8	82.9	81.0	78.6	72.2
16000	81.6	81.7	81.0	82.7	83.7	83.4	81.1	77.1	72.5
20000	81.3	81.8	81.4	82.5	83.4	83.0	80.1	76.9	71.4
25000	80.9	81.7	81.1	82.1	83.5	82.5	79.9	77.8	71.2
31500	81.1	81.7	81.3	82.0	82.7	82.2	79.3	76.7	75.0
40000	81.5	82.0	81.6	82.2	82.4	82.0	79.6	77.4	75.7
50000	81.4	81.6	81.2	81.9	81.6	81.2	80.0	78.5	77.7
63000	81.8	81.5	81.6	81.5	81.4	81.1	79.9	81.8	79.4
80000	84.0	81.9	82.9	82.4	82.1	82.4	78.6	83.7	83.2
TSPL	95.5	96.6	97.1	95.4	95.8	95.1	106.7	102.4	113.6
SSPL	93.5	93.8	93.3	94.1	94.7	94.9	98.4	95.5	99.2

V_∞ =	341	fps
T_a =	63	°F
RH_a =	72	%
P_a =	13.80	psia

DECK LD DATE ENG MOD ENG NO STNO C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3375 3375

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	97.4	97.8	97.6	95.3	94.9	93.7	104.7	100.6	113.4
SSPL	95.3	95.0	93.8	94.0	93.9	93.4	96.4	93.7	98.9

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	97.9	97.9	97.4	94.6	93.9	92.3	102.9	98.7	111.2
SSPL	95.9	95.1	93.6	93.3	92.8	92.0	94.6	91.7	96.7

ORIGINAL MICROPHONE ANGLES

70. 80. 90. 100. 110. 120. 130. 140. 150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3375 3375

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.4	90.5	89.7	83.4	79.5	72.3	87.6	94.3	93.6
125	88.0	87.9	88.2	80.8	78.3	74.5	92.9	97.0	91.4
160	76.2	86.4	84.5	78.4	76.4	71.4	88.1	93.7	91.0
200	86.7	83.7	84.0	78.7	84.2	69.9	87.5	92.8	89.0
250	74.5	85.0	82.4	77.0	73.3	72.1	86.0	89.8	89.6
315	70.1	84.4	80.7	75.6	71.4	65.9	81.6	86.5	87.4
400	71.0	81.9	78.5	75.2	70.4	65.1	82.2	86.6	86.1
500	80.8	80.3	77.4	72.6	70.6	70.3	82.4	85.1	84.0
630	79.8	79.2	77.4	73.9	71.0	71.3	81.6	84.5	82.4
800	80.2	78.2	77.3	73.4	72.4	72.1	82.1	84.7	81.7
1000	81.3	77.9	77.9	73.5	72.6	72.8	80.9	82.8	80.3
1250	71.5	76.6	67.1	74.9	73.8	74.3	81.1	82.0	78.8
1600	74.0	77.9	71.3	75.8	74.9	75.0	80.7	81.4	78.4
2000	77.0	78.4	74.5	76.8	76.5	76.7	80.6	80.7	78.1
2500	77.9	78.3	75.8	77.6	77.2	77.4	80.8	80.8	78.3
3150	75.2	78.2	76.7	77.7	77.3	77.4	80.1	79.9	77.2
4000	75.2	78.2	76.9	78.0	78.2	78.4	80.7	79.7	76.2
5000	80.2	80.5	79.0	79.9	79.5	79.4	80.5	79.2	75.9
6300	81.1	81.0	80.0	80.3	79.9	79.6	79.6	78.3	75.4
8000	85.4	83.3	82.0	82.3	81.9	81.1	80.3	78.7	75.5
10000	84.7	83.1	81.4	81.6	81.4	80.8	79.2	77.4	74.7
12500	83.4	82.4	81.0	81.3	80.9	80.3	78.2	76.4	74.1
16000	84.2	82.7	81.2	82.0	81.8	80.8	78.5	75.7	72.7
20000	83.7	82.9	81.5	81.7	81.5	80.5	77.6	75.0	72.5
25000	83.2	82.8	81.2	81.4	81.6	80.0	77.2	75.4	73.3
31500	83.4	82.8	81.4	81.1	80.8	79.7	76.7	74.2	72.7
40000	83.9	83.2	81.6	81.2	80.5	79.4	76.9	74.7	73.4
50000	83.8	82.7	81.3	80.9	79.7	78.6	76.9	75.4	74.7
63000	84.2	82.7	81.6	80.4	79.4	78.5	76.6	76.9	78.0
80000	86.4	83.0	82.9	81.3	80.2	79.8	75.8	76.5	80.3
TSPL	97.9	97.9	96.7	94.3	93.8	92.4	98.2	102.1	99.6
SSPL	95.9	94.9	93.4	93.2	92.8	92.1	93.4	93.9	91.8

V_∞ =	341	fps
T_a =	63	°F
RH_a =	72	%
P_a =	13.80	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/07/76 SCALE RATIO 0.0/1 RUN NUMBER 3375 CONDITION 3375

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		1.52	1.31		1.52	1.31	THRUST,IDL	LB	25.6	10.9	N	114.1	48.4
TEMP	(R)	676.2	1139.7	(K)	375.7	633.2	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3	0.067	0.038	KG/M3	1.066	0.603	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
VEL	FPS	960.2	1002.0	M/S	292.7	305.4	W (MODEL)	LB/S	0.9	0.4	KG/S	0.4	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.4	90.5	89.7	83.4	79.5	72.3	87.6	94.3	93.6	107.4
.125	88.0	87.9	88.2	80.8	78.3	74.5	92.9	97.0	91.4	108.3
.160	76.2	86.4	84.5	78.4	76.4	71.4	88.1	93.7	91.0	104.9
.200	86.7	83.7	84.0	78.7	84.2	69.9	87.5	92.8	89.0	104.5
.250	74.5	85.0	82.4	77.0	73.3	72.1	86.0	89.8	89.6	102.3
.315	70.1	84.4	80.7	75.6	71.4	65.9	81.6	86.5	87.4	99.9
.400	71.0	81.9	78.5	75.2	70.4	65.1	82.2	86.6	86.1	99.0
.500	80.8	80.3	77.4	72.6	70.6	70.3	82.4	85.1	84.0	98.1
.630	79.8	79.2	77.4	73.9	71.0	71.3	81.6	84.5	82.4	97.4
.800	80.2	78.2	77.3	73.4	72.4	72.1	82.1	84.7	81.7	97.5
1.00	81.3	77.9	77.9	73.5	72.6	72.8	80.9	82.8	80.3	96.8
1.25	71.5	76.6	67.1	74.9	73.8	74.3	81.1	82.0	78.8	95.4
1.60	74.0	77.9	71.3	75.8	74.9	75.0	80.7	81.4	78.4	95.7
2.00	77.0	78.4	74.5	76.8	76.5	76.7	80.6	80.7	78.1	96.2
2.50	77.9	78.3	75.8	77.6	77.2	77.4	80.8	80.8	78.3	96.7
3.15	75.2	78.2	76.7	77.7	77.3	77.4	80.1	79.9	77.2	96.3
4.00	75.2	78.2	76.9	78.0	78.2	78.4	80.7	79.7	76.2	96.7
5.00	80.2	80.5	79.0	79.9	79.5	79.4	80.5	79.2	75.9	98.0
6.30	81.1	81.0	80.0	80.3	79.9	79.6	79.6	78.3	75.4	98.2
8.00	85.4	83.3	82.0	82.3	81.9	81.1	80.3	78.7	75.5	100.3
10.0	84.7	83.1	81.4	81.6	81.4	80.8	79.2	77.4	74.7	99.7
12.5	83.4	82.4	81.0	81.3	80.9	80.3	78.2	76.4	74.1	99.1
16.0	84.2	82.7	81.2	82.0	81.8	80.8	78.5	75.7	72.7	99.6
20.0	83.7	82.9	81.5	81.7	81.5	80.5	77.6	75.0	72.5	99.4
25.0	83.2	82.8	81.2	81.4	81.6	80.0	77.2	75.4	73.3	99.2
31.5	83.4	82.8	81.4	81.1	80.8	79.7	76.7	74.2	72.7	99.0
40.0	83.9	83.2	81.6	81.2	80.5	79.4	76.9	74.7	73.4	99.1
50.0	83.8	82.7	81.3	80.9	79.7	78.6	76.9	75.4	74.7	98.8
63.0	84.2	82.7	81.6	80.4	79.4	78.5	76.6	76.9	78.0	98.9
80.0	86.4	83.0	82.9	81.3	80.2	79.8	75.8	76.5	80.3	99.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	97.9	97.9	96.7	94.3	93.8	92.4	98.2	102.1	99.6	

OAPWL = 115.7

V_∞ =	341	fps
T_a =	63	°F
RH_a =	72	%
P_a =	13 80	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3376 3376

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	88.0	80.6	89.6	80.3	81.7	75.6	87.1	94.8	102.1
125	69.5	81.6	89.1	83.7	82.0	82.5	101.6	92.7	100.6
160	77.1	82.1	85.6	81.9	81.7	82.8	97.5	92.4	100.5
200	77.9	82.4	86.1	83.8	80.8	83.8	96.1	91.0	101.4
250	82.3	86.0	82.1	85.2	86.0	86.0	94.1	94.4	105.5
315	82.6	84.9	84.5	85.0	84.7	86.0	85.5	95.0	108.0
400	83.7	84.9	81.1	85.3	85.9	86.2	90.5	95.9	108.3
500	85.0	84.5	84.0	86.7	87.6	89.6	93.0	99.8	103.3
630	85.0	86.8	87.5	89.3	90.1	93.4	97.5	102.0	104.6
800	88.0	88.9	91.5	93.9	95.3	96.8	99.6	105.0	107.0
1000	89.2	90.2	90.6	93.0	94.4	97.2	101.8	106.9	107.5
1250	91.3	91.7	92.0	95.0	97.8	101.1	104.3	109.0	108.2
1600	93.6	94.3	95.0	97.6	98.9	101.4	106.2	110.3	108.8
2000	95.1	95.5	96.5	99.0	100.3	103.2	107.6	111.4	109.2
2500	95.8	96.1	96.0	98.4	100.4	103.6	107.3	110.8	108.1
3150	94.8	96.1	96.4	98.7	100.6	104.0	107.1	109.1	106.5
4000	95.3	96.3	96.8	99.2	101.9	105.5	107.5	108.0	104.9
5000	96.0	97.3	97.8	100.8	103.1	106.6	107.9	107.2	104.0
6300	96.7	97.5	98.3	101.1	103.7	107.1	108.0	106.8	103.5
8000	98.3	97.9	99.0	101.7	104.8	108.0	108.3	107.5	103.1
10000	100.6	100.3	100.2	102.5	105.3	108.1	108.4	108.0	103.7
12500	104.7	102.6	101.7	103.6	105.9	108.1	108.5	108.0	104.1
16000	108.9	106.1	103.5	104.7	106.6	108.1	108.8	107.9	104.1
20000	110.2	108.7	105.4	105.4	106.8	107.5	107.9	107.6	103.6
25000	109.8	109.7	107.7	107.4	108.1	107.7	108.2	108.3	103.8
31500	107.7	108.6	108.3	108.5	107.9	107.7	107.8	107.9	104.0
40000	107.2	107.4	107.7	108.6	108.3	107.5	107.2	107.0	103.6
50000	106.9	106.9	106.9	108.6	108.4	107.9	106.7	106.1	102.4
63000	106.2	107.1	107.1	108.1	108.6	108.2	106.6	105.7	101.9
80000	106.8	107.1	107.5	108.5	108.9	108.5	107.0	105.7	102.4
TSPL	117.8	117.5	116.7	117.8	118.6	119.7	120.6	121.5	120.1
SSPL	117.8	117.4	116.7	117.7	118.6	119.7	120.5	121.4	119.1

V_∞ =	341	fps
T_a =	63	°F
RH_a =	72	%
P_a =	13.80	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3376 3376

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	119.6	118.7	117.3	117.6	117.8	118.2	118.6	119.7	119.9
SSPL	119.6	118.6	117.3	117.6	117.8	118.2	118.5	119.6	118.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	120.2	118.8	117.0	117.0	116.7	116.8	116.8	117.7	117.7
SSPL	120.2	118.8	117.0	117.0	116.7	116.8	116.7	117.7	116.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3376 3376

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.4	82.3	88.7	78.7	79.6	72.8	79.8	86.7	92.5
125	71.8	84.4	88.8	81.9	80.1	78.8	93.6	95.1	89.6
160	79.5	84.0	85.3	80.5	79.8	79.3	90.4	92.2	89.6
200	80.3	84.3	86.1	82.1	78.9	80.2	89.7	90.4	88.4
250	84.7	87.0	82.3	84.5	84.0	82.9	88.4	90.2	92.2
315	85.0	86.2	84.6	84.0	82.8	83.2	81.5	84.5	93.5
400	86.1	85.7	81.5	84.8	84.0	83.3	85.5	88.3	94.1
500	87.4	85.6	84.4	86.0	85.7	86.6	88.2	91.9	96.9
630	87.4	88.1	87.9	88.5	88.2	90.2	92.7	95.6	99.0
800	90.4	90.4	92.1	93.3	93.5	93.8	95.0	98.0	101.9
1000	91.6	91.5	91.1	92.4	92.6	94.0	96.8	100.3	103.6
1250	93.7	92.9	92.5	94.6	96.0	98.0	99.7	102.6	105.5
1600	96.0	95.6	95.6	97.0	97.1	98.3	101.2	104.5	106.7
2000	97.4	96.7	97.0	98.4	98.5	100.1	102.7	105.8	107.7
2500	98.2	97.2	96.4	97.9	98.6	100.5	102.7	105.4	107.1
3150	97.1	97.4	96.8	98.1	98.8	100.8	102.7	104.5	105.2
4000	97.7	97.6	97.3	98.8	100.1	102.4	103.5	104.2	104.0
5000	98.4	98.5	98.3	100.3	101.3	103.5	104.2	104.0	103.1
6300	99.1	98.8	98.8	100.7	101.9	104.1	104.4	103.9	102.7
8000	100.7	99.1	99.6	101.3	103.0	105.1	104.9	104.4	103.3
10000	103.0	101.4	100.6	102.0	103.5	105.2	104.9	104.7	103.8
12500	107.0	103.5	101.9	103.0	104.0	105.2	104.9	104.7	103.9
16000	111.3	106.8	103.5	104.0	104.7	105.2	105.2	104.9	103.8
20000	112.6	109.4	105.1	104.5	104.9	104.7	104.3	104.2	103.5
25000	112.1	110.6	107.4	106.4	106.1	105.0	104.5	104.7	104.1
31500	110.1	109.8	108.3	107.4	105.9	105.0	104.2	104.2	103.8
40000	109.6	108.6	107.9	107.6	106.4	104.9	103.8	103.5	103.0
50000	109.3	108.1	107.2	107.7	106.5	105.3	103.5	102.7	102.0
63000	108.5	108.3	107.2	107.2	106.6	105.5	103.6	102.5	101.5
80000	109.2	108.3	107.7	107.6	107.0	105.9	104.0	102.7	101.6
TSPL	120.2	118.5	116.9	116.9	116.7	116.8	116.7	117.3	117.6
SSPL	120.2	118.5	116.8	116.9	116.7	116.8	116.7	117.2	117.6

V_∞ =	341	fps
T_a =	63	°F
RH_a =	72	%
P_a =	13.80	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=341 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3376 CONDITION 3376

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	3.35		0.0	3.35	THRUST,IDL	LB	12982.8	66.5		N	57750.2	295.6
TEMP	(R)		0.0	1291.7	(K)	0.0	717.6	THRUST,MEA	LB		0.0		N		0.0
RHO	LB/FT3		0.067	0.042	KG/M3	1.066	0.679	AREA (MOD)	SQFT		0.0	0.01	SQM	0.0	0.001
VEL	FPS		0.0	2140.0	M/S	0.0	652.3	W (MODEL)	LB/S		0.0	1.0	KG/S	0.0	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.4	82.3	88.7	78.7	79.6	72.8	79.8	86.7	92.5	103.8
.125	71.8	84.4	88.8	81.9	80.1	78.8	93.6	95.1	89.6	107.2
.160	79.5	84.0	85.3	80.5	79.8	79.3	90.4	92.2	89.6	104.7
.200	80.3	84.3	86.1	82.1	78.9	80.2	89.7	90.4	88.4	104.1
.250	84.7	87.0	82.3	84.5	84.0	82.9	88.4	90.2	92.2	104.9
.315	85.0	86.2	84.6	84.0	82.8	83.2	81.5	84.5	93.5	103.6
.400	86.1	85.7	81.5	84.8	84.0	83.3	85.5	88.3	94.1	104.4
.500	87.4	85.6	84.4	86.0	85.7	86.6	88.2	91.9	96.9	106.8
.630	87.4	88.1	87.9	88.5	88.2	90.2	92.7	95.6	99.0	109.7
.800	90.4	90.4	92.1	93.3	93.5	93.8	95.0	98.0	101.9	112.9
1.00	91.6	91.5	91.1	92.4	92.6	94.0	96.8	100.3	103.6	114.0
1.25	93.7	92.9	92.5	94.6	96.0	98.0	99.7	102.6	105.5	116.4
1.60	96.0	95.6	95.6	97.0	97.1	98.3	101.2	104.5	106.7	118.1
2.00	97.4	96.7	97.0	98.4	98.5	100.1	102.7	105.8	107.7	119.4
2.50	98.2	97.2	96.4	97.9	98.6	100.5	102.7	105.4	107.1	119.2
3.15	97.1	97.4	96.8	98.1	98.8	100.8	102.7	104.5	105.2	118.8
4.00	97.7	97.6	97.3	98.8	100.1	102.4	103.5	104.2	104.0	119.3
5.00	98.4	98.5	98.3	100.3	101.3	103.5	104.2	104.0	103.1	120.0
6.30	99.1	98.8	98.8	100.7	101.9	104.1	104.4	103.9	102.7	120.3
8.00	100.7	99.1	99.6	101.3	103.0	105.1	104.9	104.4	103.3	121.0
10.0	102.0	101.4	100.6	102.0	103.5	105.2	104.9	104.7	103.8	121.6
12.5	107.0	103.5	101.9	103.0	104.0	105.2	104.9	104.7	103.9	122.5
16.0	111.3	106.8	103.5	104.0	104.7	105.2	105.2	104.9	103.8	124.2
20.0	112.6	109.4	105.1	104.5	104.9	104.7	104.3	104.2	103.5	125.1
25.0	112.1	110.6	107.4	106.4	106.1	105.0	104.5	104.7	104.1	125.9
31.5	110.1	109.8	108.3	107.4	105.9	105.0	104.2	104.2	103.8	125.6
40.0	109.6	108.6	107.9	107.6	106.4	104.9	103.8	103.5	103.0	125.2
50.0	109.3	108.1	107.2	107.7	106.5	105.3	103.5	102.7	102.0	124.9
63.0	108.5	108.3	107.2	107.2	106.6	105.5	103.6	102.5	101.5	124.8
80.0	109.2	108.3	107.7	107.6	107.0	105.9	104.0	102.7	101.6	125.2
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	120.2	118.5	116.9	116.9	116.7	116.8	116.7	117.3	117.7	

DAPWL = 135.8

V_∞ =	341	fps
T_a =	63	°F
RH_a =	72	%
P_a =	13.80	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND C	DBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3377 3377

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	87.8	80.6	89.6	91.6	80.6	88.8	103.4	94.0	101.3
125	85.5	81.2	88.7	78.9	77.7	78.2	102.4	90.8	100.5
160	72.8	79.8	84.8	79.2	76.5	79.9	97.7	91.1	99.7
200	84.3	79.5	84.6	80.9	70.4	80.2	96.8	89.2	101.3
250	74.5	81.0	83.4	80.4	80.3	80.7	78.0	90.6	105.1
315	76.0	81.0	83.3	80.1	80.0	81.0	85.5	90.5	107.7
400	78.2	80.7	80.7	80.6	80.7	81.0	87.6	90.7	107.8
500	79.1	79.9	75.5	81.6	82.4	84.8	87.5	94.3	99.7
630	79.9	82.3	81.5	84.5	85.2	88.3	92.2	96.4	99.0
800	83.3	83.9	86.1	88.6	90.2	91.7	93.9	99.1	101.0
1000	84.2	85.4	85.5	88.2	89.6	92.0	96.2	100.8	101.5
1250	86.4	86.6	87.0	89.9	92.4	95.5	98.5	103.1	102.5
1600	88.7	89.5	90.5	92.4	93.6	95.9	100.6	104.8	103.7
2000	90.4	90.9	92.0	94.1	95.3	97.8	102.4	106.5	104.6
2500	91.7	91.9	91.8	93.9	95.7	98.5	102.5	106.9	104.5
3150	90.7	92.1	92.2	94.3	96.2	99.2	102.8	106.2	104.0
4000	91.5	92.3	93.0	95.1	97.3	100.9	103.5	105.9	102.8
5000	91.9	93.3	93.6	96.2	98.7	102.0	104.1	105.2	102.3
6300	92.3	93.4	94.3	96.7	99.0	102.3	103.8	104.2	101.4
8000	93.4	93.5	94.6	97.1	100.2	103.0	103.8	104.3	100.6
10000	93.8	94.4	94.9	97.6	100.5	102.7	103.3	103.9	99.9
12500	94.1	94.8	95.6	98.6	100.9	102.6	103.1	103.4	99.7
16000	95.9	95.9	96.6	99.6	101.8	102.9	103.4	103.5	99.8
20000	97.7	97.1	97.0	99.9	102.0	102.5	102.9	103.5	100.0
25000	99.5	98.8	97.8	100.5	102.9	102.5	102.8	104.2	100.6
31500	100.5	100.1	99.1	100.8	102.3	102.2	102.1	103.1	100.2
40000	101.0	100.6	99.9	100.8	101.8	101.5	101.3	101.7	99.4
50000	101.0	100.7	100.2	101.5	101.4	101.4	100.8	100.7	98.2
63000	100.9	101.4	101.0	101.6	101.8	101.4	100.3	100.2	97.5
80000	101.7	102.0	101.9	102.4	102.5	102.0	100.8	100.2	98.0
TSPL	110.0	110.1	109.9	111.6	113.1	114.2	116.0	117.3	117.1
SSPL	110.0	110.0	109.8	111.5	113.0	114.2	115.4	117.2	115.0

V_∞ =	339	fps
T_a =	63	°F
RHa =	73	%
P_a =	13.81	psia

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	111.9	111.3	110.5	111.5	112.2	112.8	114.0	115.5	116.9
SSPL	111.8	111.2	110.4	111.4	112.2	112.8	113.4	115.4	114.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	112.4	111.4	110.2	110.8	111.2	111.4	112.2	113.5	114.7
SSPL	112.4	111.3	110.1	110.7	111.2	111.4	111.6	113.4	112.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C DBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3377 3377

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	90.2	82.2	90.9	89.2	78.7	84.7	96.8	96.4	90.9
125	87.9	82.9	87.6	76.8	75.8	74.3	93.2	95.2	87.8
160	75.2	82.0	84.3	77.3	74.6	76.1	90.0	92.0	88.2
200	86.7	80.9	84.5	78.0	68.5	75.9	89.6	90.4	86.7
250	76.8	82.9	83.1	79.0	78.4	78.1	74.3	77.9	89.4
315	78.4	82.7	82.9	78.7	78.1	78.0	80.5	82.8	89.3
400	80.5	82.0	80.7	79.6	78.8	78.0	82.1	84.2	89.4
500	81.5	80.6	76.2	81.2	80.5	81.8	82.8	86.2	91.7
630	82.3	83.5	82.0	83.8	83.3	85.1	87.4	90.1	93.3
800	85.7	85.3	86.8	88.0	88.3	88.8	89.5	92.2	96.0
1000	86.5	86.6	85.9	87.6	87.7	88.9	91.3	94.5	97.5
1250	88.8	87.8	87.6	89.5	90.6	92.4	94.0	96.8	99.6
1600	91.0	90.8	90.9	91.7	91.8	92.7	95.6	98.9	101.3
2000	92.8	92.2	92.4	93.4	93.4	94.7	97.4	100.7	102.9
2500	94.1	93.1	92.1	93.3	93.9	95.4	97.7	100.9	103.3
3150	93.1	93.4	92.6	93.7	94.4	96.1	98.2	100.7	102.4
4000	93.8	93.6	93.4	94.5	95.5	97.7	99.2	101.0	102.0
5000	94.2	94.6	94.1	95.8	96.9	98.9	100.0	101.0	101.3
6300	94.7	94.7	94.8	96.2	97.2	99.3	99.9	100.4	100.3
8000	95.7	94.8	95.1	96.7	98.4	100.1	100.1	100.5	100.3
10000	96.1	95.6	95.4	97.2	98.7	99.8	99.6	100.0	99.8
12500	96.5	96.1	96.2	98.1	99.0	99.7	99.4	99.6	99.3
16000	98.3	97.1	97.2	99.1	99.9	100.1	99.8	99.8	99.4
20000	100.1	98.2	97.5	99.4	100.1	99.7	99.2	99.5	99.5
25000	101.8	99.7	98.1	100.0	101.0	99.8	99.1	99.7	100.2
31500	102.9	101.1	99.3	100.1	100.4	99.5	98.5	98.8	99.2
40000	103.4	101.7	100.0	100.0	99.9	98.8	97.8	97.7	97.9
50000	103.4	101.8	100.4	100.6	99.5	98.7	97.5	97.0	96.8
63000	103.3	102.6	101.0	100.6	99.8	98.7	97.1	96.5	96.3
80000	104.0	103.1	102.0	101.4	100.6	99.4	97.6	96.7	96.3
TSPL	112.4	111.2	110.2	110.9	111.2	111.4	111.7	112.7	113.5
SSPL	112.3	111.1	110.1	110.9	111.2	111.4	111.4	112.5	113.4

V_∞ =	339	fps
T_a =	63	°F
RH_a =	73	%
P_a =	13 81	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3377 CONDITION 3377

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	2.61		0.0	2.61	THRUST,IDL	LB*******		46.2	N*******		205.6
TEMP	(R)	0.0	1286.7	(K)	0.0	714.8	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.040	KG/M3	1.066	0.639	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	1933.0	M/S	0.0	589.2	W (MODEL)	LB/S	0.0	0.8	KG/S	0.0	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	90.2	82.2	90.9	89.2	78.7	84.7	96.8	96.4	90.9	109.8
.125	87.9	82.9	87.6	76.8	75.8	74.3	93.2	95.2	87.8	106.9
.160	75.2	82.0	84.3	77.3	74.6	76.1	90.0	92.0	88.2	103.9
.200	86.7	80.9	84.5	78.0	68.5	75.9	89.6	90.4	86.7	103.4
.250	76.8	82.9	83.1	79.0	78.4	78.1	74.3	77.9	89.4	99.5
.315	78.4	82.7	82.9	78.7	78.1	78.0	80.5	82.8	89.3	100.0
.400	80.5	82.0	80.7	79.6	78.8	78.0	82.1	84.2	89.4	100.2
.500	81.5	80.6	76.2	81.2	80.5	81.8	82.8	86.2	91.7	101.4
.630	82.3	83.5	82.0	83.8	83.3	85.1	87.4	90.1	93.3	104.4
.800	85.7	85.3	86.8	88.0	88.3	88.8	89.5	92.2	96.0	107.5
1.00	86.5	86.6	85.9	87.6	87.7	88.9	91.3	94.5	97.5	108.5
1.25	88.8	87.8	87.6	89.5	90.6	92.4	94.0	96.8	99.6	110.8
1.60	91.0	90.8	90.9	91.7	91.8	92.7	95.6	98.9	101.3	112.7
2.00	92.8	92.2	92.4	93.4	93.4	94.7	97.4	100.7	102.9	114.4
2.50	94.1	93.1	92.1	93.3	93.9	95.4	97.7	100.9	103.3	114.7
3.15	93.1	93.4	92.6	93.7	94.4	96.1	98.2	100.7	102.4	114.8
4.00	93.8	93.6	93.4	94.5	95.5	97.7	99.2	101.0	102.0	115.4
5.00	94.2	94.6	94.1	95.8	96.9	98.9	100.0	101.0	101.3	116.0
6.30	94.7	94.7	94.8	96.2	97.2	99.3	99.9	100.4	100.3	116.0
8.00	95.7	94.8	95.1	96.7	98.4	100.1	100.1	100.5	100.3	116.5
10.0	96.1	95.6	95.4	97.2	98.7	99.8	99.6	100.0	99.8	116.5
12.5	96.5	96.1	96.2	98.1	99.0	99.7	99.4	99.6	99.3	116.6
16.0	98.3	97.1	97.2	99.1	99.9	100.1	99.8	99.8	99.4	117.3
20.0	100.1	98.2	97.5	99.4	100.1	99.7	99.2	99.5	99.5	117.5
25.0	101.8	99.7	98.1	100.0	101.0	99.8	99.1	99.7	100.2	118.2
31.5	102.9	101.1	99.3	100.1	100.4	99.5	98.5	98.8	99.2	118.4
40.0	103.4	101.7	100.0	100.0	99.9	98.8	97.8	97.7	97.9	118.4
50.0	103.4	101.8	100.4	100.6	99.5	98.7	97.5	97.0	96.8	118.4
63.0	103.3	102.6	101.0	100.6	99.8	98.7	97.1	96.5	96.3	118.7
80.0	104.0	103.1	102.0	101.4	100.6	99.4	97.6	96.7	96.3	119.4
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	112.4	111.2	110.2	110.9	111.2	111.4	111.7	112.7	113.5	

V_∞ =	339	fps
T_a =	63	°F
RH_a =	73	%
P_a =	13.81	psia

DAPWL = 129.8

A-102

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3378 3378

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	89.7	85.2	74.9	80.3	81.7	82.5	96.5	94.5	102.3
125	87.9	84.2	83.3	80.0	79.6	78.2	100.0	93.7	100.6
160	85.4	82.8	76.2	78.2	76.5	79.1	87.9	92.4	100.1
200	84.1	81.3	85.8	77.5	86.6	79.2	92.9	91.0	101.5
250	84.2	81.6	78.9	76.3	77.9	77.3	89.7	91.2	105.0
315	82.3	80.2	74.3	76.1	74.9	78.0	87.3	90.2	108.0
400	82.3	78.8	70.8	76.7	76.6	77.7	85.5	89.1	108.0
500	81.8	78.3	77.0	77.4	78.3	80.1	85.9	90.8	98.8
630	81.0	79.7	78.8	79.9	80.5	83.9	89.5	91.9	94.4
800	82.2	80.5	81.0	83.1	84.6	86.5	90.3	93.8	95.0
1000	81.6	81.1	81.3	83.1	84.4	86.8	90.9	94.4	94.7
1250	81.7	81.5	81.8	84.2	86.2	89.1	92.0	95.2	94.5
1600	83.0	83.2	83.2	85.5	87.2	89.2	92.7	95.2	94.1
2000	83.4	83.7	84.4	86.7	88.0	90.5	93.5	95.2	93.4
2500	84.4	84.6	84.5	86.8	88.6	91.0	93.6	94.9	91.6
3150	84.5	85.2	85.3	87.5	89.1	91.6	93.8	93.9	90.4
4000	85.3	86.0	86.3	88.4	90.5	93.4	94.6	94.0	89.5
5000	86.8	87.9	87.6	90.1	92.2	94.7	95.5	94.2	89.5
6300	87.6	88.4	88.7	91.0	93.0	95.6	95.4	93.4	89.6
8000	89.1	88.9	89.5	91.8	94.6	96.9	95.6	94.1	89.7
10000	89.3	90.0	90.2	92.5	94.9	96.9	95.6	94.6	89.9
12500	89.2	90.2	90.7	93.2	95.2	96.5	95.6	94.7	90.8
16000	89.7	90.7	91.6	94.1	95.7	96.1	95.7	95.4	91.9
20000	88.9	90.3	91.2	93.6	95.4	95.2	94.0	93.8	90.8
25000	89.0	90.5	91.1	93.9	95.5	94.6	93.4	93.2	89.8
31500	88.5	90.1	91.2	93.6	94.4	94.0	92.5	91.8	88.6
40000	88.7	90.0	91.0	93.2	93.8	93.4	92.1	90.8	87.8
50000	88.3	89.6	90.6	93.1	93.2	92.9	91.5	90.1	86.9
63000	88.2	89.8	90.7	92.6	93.2	93.0	91.2	90.2	86.8
80000	89.1	90.0	91.1	92.9	93.4	93.2	91.3	90.5	88.0
TSPL	101.6	102.0	102.4	104.6	106.1	107.1	108.4	108.1	114.0
SSPL	100.7	101.6	102.2	104.6	106.0	107.1	107.0	107.2	105.9

V_∞ =	340	fps
T_a =	62	°F
RH_a =	74	%
P_a =	13.80	psia

DECK LO DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3378 3378

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS.

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	103.4	103.2	103.0	104.5	105.3	105.7	106.4	106.3	113.7
SSPL	102.5	102.8	102.8	104.4	105.2	105.6	105.1	105.4	105.7

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

V_∞ =	310	fps
T_∞ =	60	°F
RH_∞ =	71	%
P_∞ =	13.80	psia

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	104.0	103.3	102.7	103.8	104.2	104.3	104.7	104.3	111.5
SSPL	103.1	102.9	102.5	103.8	104.1	104.2	103.3	103.5	103.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

ORIGINAL PAGE IS
OF POOR QUALITY
ORIGINAL PAGE IS
OF POOR QUALITY

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
W631	315	05/07/76		-00 000000	XARF 0	3378 3378

OBTF JET NOISE TEST COANNULAR NOZ AR
0.75 CONF 2 TAPE 4224 10.204

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120.	130	140	150
100	92.1	84.9	74.9	80.0	79.8	79.1	89.4	92.4	91.8
125	90.3	85.1	82.6	78.6	77.6	74.6	91.0	94.9	90.6
160	87.8	83.1	76.0	77.1	74.6	75.7	81.8	86.1	90.0
200	86.5	82.8	84.6	77.0	84.7	76.4	85.6	88.7	88.6
250	86.5	82.3	78.2	75.3	76.0	74.1	82.8	86.5	89.4
315	84.7	80.6	74.1	75.0	73.0	74.6	81.2	84.1	88.9
400	84.7	78.9	71.1	76.2	74.7	74.5	79.7	82.4	88.0
500	84.1	79.1	76.9	76.5	76.4	76.9	80.5	83.9	88.5
630	83.3	80.7	78.9	79.0	78.7	80.6	84.4	86.9	88.7
800	84.5	81.6	81.4	82.5	82.8	83.4	85.6	88.1	90.6
1000	84.0	82.2	81.6	82.4	82.6	83.7	86.1	88.7	91.0
1250	84.1	82.7	82.3	83.6	84.4	86.0	87.5	89.7	91.7
1600	85.4	84.3	83.6	84.9	85.3	86.1	88.1	90.2	91.6
2000	85.8	85.0	84.8	86.0	86.1	87.5	89.1	90.6	91.4
2500	86.7	85.7	84.9	86.2	86.7	88.0	89.3	90.6	90.9
3150	86.9	86.4	85.7	86.8	87.2	88.6	89.8	90.4	89.9
4000	87.7	87.2	86.7	87.8	88.6	90.4	90.8	90.9	89.8
5000	89.2	89.1	88.0	89.6	90.4	91.8	91.9	91.4	89.9
6300	90.0	89.7	89.2	90.4	91.2	92.7	92.1	90.9	89.2
8000	91.4	90.1	89.9	91.3	92.8	94.1	92.6	91.3	89.9
10000	91.6	91.2	90.6	92.0	93.0	94.1	92.6	91.5	90.3
12500	91.5	91.5	91.2	92.7	93.4	93.8	92.4	91.5	90.6
16000	92.1	92.0	92.1	93.5	93.8	93.4	92.3	91.8	91.3
20000	91.3	91.7	91.6	93.0	93.5	92.5	90.8	90.1	89.8
25000	91.4	91.8	91.7	93.4	93.5	92.0	90.2	89.6	89.2
31500	90.9	91.5	91.7	92.9	92.5	91.4	89.4	88.4	87.7
40000	91.0	91.4	91.5	92.5	91.9	90.8	89.0	87.7	86.8
50000	90.7	91.0	91.1	92.3	91.3	90.3	88.5	87.1	86.0
63000	90.6	91.1	91.1	91.8	91.3	90.4	88.2	86.9	86.1
80000	91.5	91.4	91.5	92.1	91.5	90.6	88.3	87.1	86.6
TSPL	104.0	103.2	102.8	104.0	104.3	104.3	104.1	104.6	104.5
SSPL	103.0	102.9	102.7	103.9	104.2	104.3	103.5	103.4	103.4

V_∞ =	340	fps
T_a =	62	°F
RH_a =	74	%
P_a =	13.80	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=340 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3378 CONDITION 3378

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	1.89		0.0	1.89	THRUST,IDL	LB*******		27.0	N*******		120.3
TEMP	(R)	0.0	1250.3	(K)	0.0	694.6	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.038	KG/M3	1.066	0.605	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	1583.0	M/S	0.0	482.5	W (MODEL)	LB/S	0.0	0.6	KG/S	0.0	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	92.1	84.9	74.9	80.0	79.8	79.1	89.4	92.4	91.8	105.4
.125	90.3	85.1	82.6	78.6	77.6	74.6	91.0	94.9	90.6	106.3
.160	87.8	83.1	76.0	77.1	74.6	75.7	81.8	86.1	90.0	101.0
.200	86.5	82.8	84.6	77.0	84.7	76.4	85.6	88.7	88.6	102.9
.250	86.5	82.3	78.2	75.3	76.0	74.1	82.8	86.5	89.4	100.7
.315	84.7	80.6	74.1	75.0	73.0	74.6	81.2	84.1	88.9	99.1
.400	84.7	78.9	71.1	76.2	74.7	74.5	79.7	82.4	88.0	98.2
.500	84.1	79.1	76.9	76.5	76.4	76.9	80.5	83.9	88.5	99.0
.630	83.3	80.7	78.9	79.0	78.7	80.6	84.4	86.9	88.7	100.9
.800	84.5	81.6	81.4	82.5	82.8	83.4	85.6	88.1	90.6	102.8
1.00	84.0	82.2	81.6	82.4	82.6	83.7	86.1	88.7	91.0	103.1
1.25	84.1	82.7	82.3	83.6	84.4	86.0	87.5	89.7	91.7	104.3
1.60	85.4	84.3	83.6	84.9	85.3	86.1	88.1	90.2	91.6	104.9
2.00	85.8	85.0	84.8	86.0	86.1	87.5	89.1	90.6	91.4	105.7
2.50	86.7	85.7	84.9	86.2	86.7	88.0	89.3	90.6	90.9	105.9
3.15	86.9	86.4	85.7	86.8	87.2	88.6	89.8	90.4	89.9	106.3
4.00	87.7	87.2	86.7	87.8	88.6	90.4	90.8	90.9	89.8	107.3
5.00	89.2	89.1	88.0	89.6	90.4	91.8	91.9	91.4	89.9	108.6
6.30	90.0	89.7	89.2	90.4	91.2	92.7	92.1	90.9	89.2	109.1
8.00	91.4	90.1	89.9	91.3	92.8	94.1	92.6	91.3	89.9	110.1
10.0	91.6	91.2	90.6	92.0	93.0	94.1	92.6	91.5	90.3	110.5
12.5	91.5	91.5	91.2	92.7	93.4	93.8	92.4	91.5	90.6	110.6
16.0	92.1	92.0	92.1	93.5	93.8	93.4	92.3	91.8	91.3	111.0
20.0	91.3	91.7	91.6	93.0	93.5	92.5	90.8	90.1	89.8	110.3
25.0	91.4	91.8	91.7	93.4	93.5	92.0	90.2	89.6	89.2	110.3
31.5	90.9	91.5	91.7	92.9	92.5	91.4	89.4	88.4	87.7	109.7
40.0	91.0	91.4	91.5	92.5	91.9	90.8	89.0	87.7	86.8	109.3
50.0	90.7	91.0	91.1	92.3	91.3	90.3	88.5	87.1	86.0	108.9
63.0	90.6	91.1	91.1	91.8	91.3	90.4	88.2	86.9	86.1	108.8
80.0	91.5	91.4	91.5	92.1	91.5	90.6	88.3	87.1	86.6	109.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	104.0	103.2	102.8	104.0	104.3	104.3	104.1	104.6	104.5	OAPWL = 122.2

V_∞ =	340	fps
T_a =	62	°F
RH_a =	74	%
P_a =	13.80	psia

A2-107

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3379 3379

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	86.7	83.6	90.8	84.2	83.2	84.3	96.5	96.7	103.3
125	84.2	83.2	79.0	82.7	81.5	82.5	102.4	94.1	101.6
160	80.9	81.2	85.7	80.9	79.8	81.8	99.2	92.7	101.0
200	80.8	79.5	85.4	79.2	75.2	81.1	97.8	91.0	101.7
250	80.1	80.1	83.6	77.0	77.5	80.3	78.0	90.6	106.2
315	79.7	78.1	82.2	75.3	75.4	78.4	90.9	89.2	108.1
400	77.9	76.8	79.7	74.6	73.2	77.7	91.4	87.1	108.0
500	76.9	73.9	79.0	70.2	74.7	76.5	89.6	86.8	98.4
630	74.7	72.9	78.4	71.7	71.5	75.5	88.1	85.0	90.4
800	74.0	70.1	78.1	70.2	72.1	74.7	79.2	84.8	87.1
1000	72.1	70.6	78.3	71.8	72.0	74.7	69.8	83.2	85.8
1250	74.0	70.0	77.9	70.4	73.2	75.9	77.7	81.9	83.7
1600	73.1	72.5	77.8	73.1	74.2	76.0	80.9	80.6	81.3
2000	75.2	73.6	70.2	75.0	76.4	78.2	81.9	81.1	80.8
2500	76.0	75.3	73.2	76.3	78.1	79.6	81.6	81.6	80.1
3150	76.0	76.1	75.5	77.5	79.2	81.4	82.7	82.3	79.1
4000	77.1	77.8	77.7	79.5	82.5	85.0	85.5	83.8	79.3
5000	80.7	81.2	80.7	82.6	84.9	87.3	87.2	84.6	80.6
6300	81.1	82.0	81.8	83.6	85.3	87.6	87.6	84.3	80.8
8000	83.0	82.7	83.0	84.8	86.5	88.3	87.6	84.9	80.8
10000	83.8	84.1	83.7	85.6	87.6	88.3	87.0	84.9	81.0
12500	82.2	83.1	83.1	85.0	86.2	86.8	84.4	82.1	78.5
16000	81.5	82.4	83.1	84.8	85.7	85.9	83.8	80.8	77.7
20000	80.4	81.5	82.1	84.0	84.9	84.5	82.2	80.1	76.5
25000	79.8	81.7	81.8	83.7	84.9	83.7	81.2	79.6	75.9
31500	79.1	81.0	81.4	83.1	83.6	82.7	80.4	78.2	76.6
40000	79.1	80.9	81.1	82.6	83.1	82.1	79.8	78.0	77.0
50000	79.2	81.0	81.0	82.9	82.6	82.1	80.1	78.9	79.0
63000	79.8	81.5	81.5	83.2	83.1	83.1	81.4	80.4	80.7
80000	81.9	83.0	83.0	84.9	84.3	85.1	83.0	84.1	83.5
TSPL	95.1	95.1	97.1	96.4	97.2	98.3	106.5	102.4	113.9
SSPL	93.1	93.7	94.3	95.5	96.7	97.6	98.0	96.5	100.4

V_∞ =	339	fps
T_a =	61	°F
RH_a =	74	%
P_a =	13.81	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00 000000	XARF	0	3379	3379

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	88.	96.	105.	114.	124.	134.	144.	155.	164.
TSPL	97.0	96.3	97.7	96.3	96.4	96.8	104.6	100.6	113.6
SSPL	94.9	94.9	94.8	95.4	95.9	96.1	96.0	94.7	100.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	88.	98.	110.	122.	134.	148.	159.
TSPL	97.5	96.4	97.4	95.6	95.3	95.4	102.8	98.6	111.4
SSPL	95.4	95.1	94.6	94.7	94.8	94.7	94.3	92.7	97.9

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00 000000	XARF	0	3379	3379

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	89.1	85.3	90.3	82.4	81.3	80.9	89.7	93.2	93.9
125	86.6	83.8	79.3	81.9	79.6	78.8	94.1	96.3	91.0
160	83.3	82.9	85.3	79.2	77.9	78.1	91.5	93.6	89.8
200	83.2	81.2	84.9	77.0	73.4	77.1	90.4	91.8	88.4
250	82.5	81.6	82.7	75.3	75.6	77.5	74.3	77.8	89.5
315	82.1	79.6	81.3	73.6	73.6	74.8	84.2	86.0	87.8
400	80.3	78.2	79.1	72.8	71.3	74.0	84.6	85.4	85.9
500	79.3	75.4	77.8	68.9	72.9	73.0	82.8	84.8	84.5
630	77.1	74.5	77.7	70.0	69.7	71.9	81.5	83.6	81.9
800	76.3	71.8	77.4	68.6	70.3	71.6	74.2	77.8	81.7
1000	74.4	72.5	77.9	70.2	70.2	72.0	66.7	70.7	80.6
1250	76.4	71.7	77.3	69.0	71.4	72.9	73.5	75.5	78.7
1600	75.4	74.2	77.5	71.7	72.4	72.9	76.2	77.3	77.1
2000	77.5	74.3	70.7	74.6	74.5	75.1	77.5	78.0	77.4
2500	78.4	76.2	73.5	75.8	76.2	76.7	77.6	78.0	77.8
3150	78.3	77.2	75.7	76.9	77.3	78.4	78.9	78.9	78.3
4000	79.5	79.0	78.0	79.0	80.7	82.1	82.1	81.3	79.5
5000	83.1	82.3	81.0	82.0	83.1	84.4	84.0	82.5	80.4
6300	83.5	83.2	82.1	82.9	83.5	84.7	84.3	82.6	80.1
8000	85.4	83.8	83.3	84.1	84.6	85.5	84.5	82.8	80.6
10000	86.2	85.2	84.0	85.0	85.7	85.6	84.0	82.4	80.7
12500	84.5	84.3	83.4	84.3	84.3	84.1	81.7	79.6	77.9
16000	83.9	83.7	83.4	84.1	83.8	83.3	81.1	78.7	76.7
20000	82.8	82.8	82.5	83.2	83.0	81.9	79.4	77.5	75.9
25000	82.1	83.0	82.2	83.0	83.0	81.2	78.4	76.7	75.4
31500	81.5	82.3	81.7	82.3	81.7	80.2	77.6	75.5	74.3
40000	81.5	82.2	81.3	81.8	81.1	79.6	77.0	75.0	74.2
50000	81.6	82.3	81.3	82.0	80.6	79.6	77.2	75.5	75.2
63000	82.2	82.8	81.8	82.3	81.2	80.4	78.4	76.9	76.8
80000	84.3	84.2	83.3	83.9	82.4	82.4	80.0	79.3	80.4
TSPL	97.5	96.4	97.0	95.5	95.3	95.4	99.6	101.2	99.6
SSPL	95.4	95.0	94.5	94.8	94.8	94.8	94.1	93.5	92.9

V_∞ =	339	fps
T_a =	61	°F
RH_a =	74	%
P_a =	13.81	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=339 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3379 CONDITION 3379

			PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S		0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	1.36		0.0	1.36	THRUST,IDL	LB*******		10.9		N*******		48.6
TEMP	(R)		0.0	1199.3	(K)	0.0	666.3	THRUST,MEA	LB		0.0		N		0.0
RHO	LB/FT3		0.067	0.036	KG/M3	1.066	0.579	AREA (MOD)	SQFT		0.0	0.01	SQM	0.0	0.001
VEL	FPS		0.0	1100.0	M/S	0.0	335.3	W (MODEL)	LB/S		0.0	0.3	KG/S	0.0	0.1

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	89.1	85.3	90.3	82.4	81.3	80.9	89.7	93.2	93.9	106.8
.125	86.6	83.8	79.3	81.9	79.6	78.8	94.1	96.3	91.0	107.6
.160	83.3	82.9	85.3	79.2	77.9	78.1	91.5	93.6	89.8	105.5
.200	83.2	81.2	84.9	77.0	73.4	77.1	90.4	91.8	88.4	104.1
.250	82.5	81.6	82.7	75.3	75.6	77.5	74.3	77.8	89.5	99.1
.315	82.1	79.6	81.3	73.6	73.6	74.8	84.2	86.0	87.8	99.9
.400	80.3	78.2	79.1	72.8	71.3	74.0	84.6	85.4	85.9	98.9
.500	79.3	75.4	77.8	68.9	72.9	73.0	82.8	84.8	84.5	97.6
.630	77.1	74.5	77.7	70.0	69.7	71.9	81.5	83.6	81.9	96.3
.800	76.3	71.8	77.4	68.6	70.3	71.6	74.2	77.8	81.7	93.3
1.00	74.4	72.5	77.9	70.2	70.2	72.0	66.7	70.7	80.6	92.2
1.25	76.4	71.7	77.3	69.0	71.4	72.9	73.5	75.5	78.7	92.6
1.60	75.4	74.2	77.5	71.7	72.4	72.9	76.2	77.3	77.1	93.4
2.00	77.5	74.3	78.7	74.6	74.5	75.1	77.5	78.0	77.4	93.8
2.50	78.4	76.2	73.5	75.8	76.2	76.7	77.6	78.0	77.8	94.9
3.15	78.3	77.2	75.7	76.9	77.3	78.4	78.9	78.9	78.3	96.0
4.00	79.5	79.0	78.0	79.0	80.7	82.1	82.1	81.3	79.5	98.6
5.00	83.1	82.3	81.0	82.0	83.1	84.4	84.0	82.5	80.4	101.1
6.30	83.5	83.2	82.1	82.9	83.5	84.7	84.3	82.6	80.1	101.6
8.00	85.4	83.8	83.3	84.1	84.6	85.5	84.5	82.8	80.6	102.5
10.0	86.2	85.2	84.0	85.0	85.7	85.6	84.0	82.4	80.7	103.1
12.5	84.5	84.3	83.4	84.3	84.3	84.1	81.7	79.6	77.9	101.8
16.0	83.9	83.7	83.4	84.1	83.8	83.3	81.1	78.7	76.7	101.3
20.0	82.8	82.8	82.5	83.2	83.0	81.9	79.4	77.5	75.9	100.3
25.0	82.1	83.0	82.2	83.0	83.0	81.2	78.4	76.7	75.4	100.0
31.5	81.5	82.3	81.7	82.3	81.7	80.2	77.6	75.5	74.3	99.2
40.0	81.5	82.2	81.3	81.8	81.1	79.6	77.0	75.0	74.2	98.8
50.0	81.6	82.3	81.3	82.0	80.6	79.6	77.2	75.5	75.2	98.8
63.0	82.2	82.8	81.8	82.3	81.2	80.4	78.4	76.9	76.8	99.4
80.0	84.3	84.2	83.3	83.9	82.4	82.4	80.0	79.3	80.4	101.1
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										OAPWL = 115.9
OSPL	97.5	96.4	97.0	95.5	95.3	95.4	99.6	101.2	99.6	

V_∞ =	339	fps
T_a =	61	°F
RH_a =	74	%
P_a =	13.81	psia

A2-201

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00 000000	XARF	0	3381	3381

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	62.4	77.4	72.6	79.1	80.2	76.5	74.7	84.5	87.4
125	72.0	76.6	80.6	80.4	78.6	79.3	79.4	85.1	90.3
160	73.6	78.3	80.5	80.6	80.3	79.4	80.2	87.5	92.3
200	76.8	80.1	81.7	83.8	81.7	84.1	86.2	86.8	93.7
250	82.4	86.2	86.1	85.9	87.3	88.0	88.1	94.4	96.2
315	85.8	87.9	88.3	87.8	88.0	88.6	89.8	95.6	102.5
400	87.9	87.2	86.1	87.5	87.7	88.7	94.0	97.1	106.1
500	88.4	86.5	87.2	88.6	89.7	92.6	95.6	101.8	103.9
630	86.8	89.0	89.8	91.5	92.4	95.4	99.0	103.7	107.8
800	89.6	90.9	93.1	95.2	96.1	98.0	101.6	107.2	109.9
1000	91.7	91.7	91.9	94.5	96.5	100.0	104.0	109.4	111.4
1250	93.3	93.7	94.8	98.1	99.8	103.4	107.0	111.9	112.5
1600	95.7	97.7	97.6	100.6	102.5	103.4	108.9	113.7	113.4
2000	97.5	97.8	99.0	101.8	103.2	105.6	110.6	115.2	113.8
2500	99.3	99.6	99.5	101.6	103.1	106.1	110.5	115.3	113.8
3150	98.3	98.9	99.0	101.5	102.9	106.5	110.1	113.8	113.0
4000	97.5	98.8	99.2	101.8	104.3	107.9	110.1	112.9	111.8
5000	98.1	99.5	99.8	102.6	105.0	108.6	110.5	111.9	110.8
6300	98.3	99.2	100.0	102.7	105.0	108.8	110.6	111.2	109.9
8000	99.6	99.3	100.6	103.2	106.3	109.7	110.8	111.7	108.9
10000	101.3	101.1	101.1	103.7	106.7	109.7	110.9	112.0	108.9
12500	104.0	102.6	102.3	104.5	106.9	109.5	110.8	112.0	109.1
16000	108.2	105.5	103.3	105.1	107.3	109.5	110.8	111.6	108.0
20000	110.0	108.3	105.0	105.5	107.4	108.6	109.9	110.2	106.4
25000	110.0	109.8	107.5	107.1	108.5	108.4	109.9	110.4	105.9
31500	107.8	108.9	108.2	108.2	108.0	107.9	109.1	109.8	105.0
40000	107.0	107.4	107.4	108.3	107.9	107.4	108.2	108.5	104.4
50000	106.3	106.5	106.6	108.1	107.7	107.2	107.5	107.5	103.0
63000	105.3	106.2	106.1	107.0	107.6	107.0	106.7	106.5	101.9
80000	104.8	105.1	105.4	106.3	106.9	106.4	106.1	105.6	101.2
TSPL	117.6	117.4	116.6	117.8	119.0	120.7	122.6	124.9	123.7
SSPL	117.6	117.4	116.6	117.8	119.0	120.7	122.6	124.9	123.5

V_∞ =	202	fps
T_a =	72	°F
RH_a =	18	%
P_a =	14.40	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
H631 315 05/07/76 -00 000000 XARF 0 3381 3381

OBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	118.6	118.0	116.8	117.6	118.5	119.7	121.3	123.4	123.0
SSPL	118.5	117.9	116.8	117.6	118.4	119.7	121.3	123.4	122.8

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	119.0	118.1	116.7	117.3	117.8	118.9	120.3	122.4	121.5
SSPL	118.9	118.1	116.7	117.3	117.8	118.9	120.2	122.3	121.3

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND C	OBS CORR
H631	315	05/07/76		-00 000000	XARF 0	3381 3381

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	63.7	78.5	72.8	78.8	78.9	75.0	72.0	77.5	83.8
125	73.3	77.7	80.9	79.7	77.3	77.5	76.7	79.7	84.8
160	74.9	79.3	80.6	79.9	79.1	77.7	77.3	81.5	87.2
200	78.1	81.0	82.0	83.1	80.5	82.1	83.5	83.5	86.6
250	83.7	87.0	86.0	85.3	86.2	86.2	85.4	89.2	93.1
315	87.1	88.7	88.3	87.1	86.8	86.8	87.0	90.1	95.8
400	89.2	87.7	86.2	86.9	86.5	86.7	90.5	92.7	97.8
500	89.7	87.1	87.3	88.1	88.6	90.6	92.4	96.7	100.6
630	88.1	89.8	90.0	91.0	91.3	93.4	95.8	99.0	103.0
800	90.9	91.7	93.4	94.7	95.0	96.0	98.3	102.3	106.1
1000	93.0	92.4	92.1	94.1	95.4	97.9	100.7	104.7	108.1
1250	94.6	94.4	95.2	97.7	98.7	101.4	103.8	107.5	110.1
1600	97.0	98.5	97.9	100.2	101.4	101.4	105.3	109.5	111.6
2000	98.8	98.6	99.3	101.4	102.1	103.6	107.2	111.2	112.8
2500	100.7	100.3	99.7	101.2	102.0	104.1	107.2	111.2	112.8
3150	99.6	99.5	99.2	101.0	101.8	104.4	106.9	110.0	111.4
4000	98.8	99.5	99.4	101.4	103.2	105.9	107.3	109.4	110.3
5000	99.4	100.2	100.0	102.2	103.9	106.6	107.9	109.0	109.2
6300	99.6	99.9	100.3	102.3	103.9	106.8	108.1	108.7	108.4
8000	101.0	100.0	100.9	102.9	105.3	107.8	108.4	109.2	108.5
10000	102.6	101.7	101.3	103.4	105.6	107.8	108.4	109.4	108.7
12500	105.3	103.1	102.4	104.1	105.8	107.5	108.2	109.3	108.7
16000	109.5	105.9	103.3	104.7	106.2	107.6	108.3	109.2	108.1
20000	111.3	108.7	104.8	105.0	106.3	106.7	107.4	108.0	106.5
25000	111.3	110.3	107.3	106.5	107.3	106.6	107.3	108.1	106.5
31500	109.1	109.5	108.1	107.6	106.8	106.1	106.6	107.5	105.9
40000	106.3	108.1	107.5	107.7	106.7	105.7	105.8	106.3	104.8
50000	107.6	107.2	106.7	107.5	106.5	105.5	105.2	105.4	103.6
63000	106.6	106.8	106.1	106.4	106.4	105.2	104.5	104.4	102.5
80000	106.1	105.8	105.5	105.8	105.7	104.7	104.0	103.7	101.7
TSPL	118.9	118.0	116.7	117.3	117.9	118.8	119.9	121.7	122.2
SSPL	118.9	118.0	116.7	117.3	117.9	118.8	119.9	121.6	122.2

V_∞ =	202	fps
T_a =	72	°F
RH_a =	18	%
P_a =	14.40	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=203 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3381 CONDITION 3381

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	3.26		0.0	3.26	THRUST,IDL	LB*******		67.7	N*******		301.0
TEMP	(R)	0.0	1310.0	(K)	0.0	727.8	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.041	KG/M3	1.066	0.665	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	2136.0	M/S	0.0	651.1	W (MODEL)	LB/S	0.0	1.0	KG/S	0.0	0.5

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	63.7	78.5	72.8	78.8	78.9	75.0	72.0	77.5	83.8	95.7
.125	73.3	77.7	80.9	79.7	77.3	77.5	76.7	79.7	84.8	97.4
.160	74.9	79.3	80.6	79.9	79.1	77.7	77.3	81.5	87.2	98.4
.200	78.1	81.0	82.0	83.1	80.5	82.1	83.5	83.5	86.6	100.7
.250	83.7	87.0	86.0	85.3	86.2	86.2	85.4	89.2	93.1	105.3
.315	87.1	88.7	88.3	87.1	86.8	86.8	87.0	90.1	95.8	107.0
.400	89.2	87.7	86.2	86.9	86.5	86.7	90.5	92.7	97.8	107.9
.500	89.7	87.1	87.3	88.1	88.6	90.6	92.4	96.7	100.6	110.4
.630	88.1	89.8	90.0	91.0	91.3	93.4	95.8	99.0	103.0	112.9
.800	90.9	91.7	93.4	94.7	95.0	96.0	98.3	102.3	106.1	116.0
1.00	93.0	92.4	92.1	94.1	95.4	97.9	100.7	104.7	108.1	117.7
1.25	94.6	94.4	95.2	97.7	98.7	101.4	103.8	107.5	110.1	120.5
1.60	97.0	98.5	97.9	100.2	101.4	101.4	105.3	109.5	111.6	122.3
2.00	98.8	98.6	99.3	101.4	102.1	103.6	107.2	111.2	112.8	123.8
2.50	100.7	100.3	99.7	101.2	102.0	104.1	107.2	111.2	112.8	123.9
3.15	99.6	99.5	99.2	101.0	101.8	104.4	106.9	110.0	111.4	123.1
4.00	98.8	99.5	99.4	101.4	103.2	105.9	107.3	109.4	110.3	123.2
5.00	99.4	100.2	100.0	102.2	103.9	106.6	107.9	109.0	109.2	123.4
6.30	99.6	99.9	100.3	102.3	103.9	106.8	108.1	108.7	108.4	123.3
8.00	101.0	100.0	100.9	102.9	105.3	107.8	108.4	109.2	108.5	124.0
10.0	102.6	101.7	101.3	103.4	105.6	107.8	108.4	109.4	108.7	124.3
12.5	105.3	103.1	102.4	104.1	105.8	107.5	108.2	109.3	108.7	124.5
16.0	109.5	105.9	103.3	104.7	106.2	107.6	108.3	109.2	108.1	125.2
20.0	111.3	108.7	104.8	105.0	106.3	106.7	107.4	108.0	106.5	125.6
25.0	111.3	110.3	107.3	106.5	107.3	106.6	107.3	108.1	106.5	126.4
31.5	109.1	109.5	108.1	107.6	106.8	106.1	106.6	107.5	105.9	126.0
40.0	108.3	108.1	107.5	107.7	106.7	105.7	105.8	106.3	104.8	125.3
50.0	107.6	107.2	106.7	107.5	106.5	105.5	105.2	105.4	103.6	124.8
63.0	106.6	106.8	106.1	106.4	106.4	105.2	104.5	104.4	102.5	124.1
80.0	106.1	105.8	105.5	105.8	105.7	104.7	104.0	103.7	101.7	123.5
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	118.9	118.0	116.7	117.3	117.9	118.8	119.9	121.7	122.2	

OAPWL = 137.2

V_∞ =	202	fps
T_a =	72	°F
RH_a =	18	%
P_a =	1440	psia

A2-205

DECK LD DATE ENG MOD ENG NO STND C OBS CORR 1
W631 315 05/07/76 -00 000000 XARF 0 3382 3382

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	76.3	76.3	77.5	72.1	75.6	78.7	79.4	81.4	85.0
125	74.7	70.3	74.6	75.8	74.5	73.1	72.3	82.4	89.8
160	62.5	71.7	75.7	76.4	76.5	74.9	73.3	84.2	89.3
200	68.9	74.2	77.0	79.3	77.6	79.8	81.8	82.9	90.2
250	76.2	79.9	80.3	80.7	82.2	82.9	83.6	89.4	93.0
315	79.6	82.3	82.9	82.3	82.8	83.3	84.6	90.1	97.3
400	82.5	82.7	81.2	82.7	83.0	84.0	88.8	92.0	100.1
500	83.5	81.6	82.7	84.0	85.2	87.9	91.1	96.8	98.6
630	82.3	84.3	85.4	87.0	88.1	90.8	94.2	98.8	102.6
800	85.4	85.9	88.5	90.6	91.6	93.4	96.7	102.1	104.8
1000	87.1	87.5	87.9	89.8	92.0	95.2	98.9	104.1	106.3
1250	88.8	89.5	90.1	93.3	95.2	98.5	102.0	106.8	107.3
1600	91.0	92.9	92.8	95.8	97.8	98.8	103.8	108.6	108.5
2000	92.6	93.0	94.1	97.1	98.4	100.8	105.5	110.3	109.0
2500	94.3	94.8	94.6	96.8	98.5	101.4	105.6	110.7	108.9
3150	93.6	94.4	94.6	96.9	98.7	102.2	106.0	110.0	108.3
4000	93.3	94.6	95.0	97.4	99.9	103.6	106.1	109.1	106.9
5000	93.7	95.2	95.6	98.2	100.7	104.4	106.5	108.4	106.1
6300	93.8	95.0	96.0	98.5	101.0	104.5	106.5	107.4	105.2
8000	94.6	94.8	96.1	98.9	102.2	105.3	106.4	107.5	104.0
10000	94.8	95.8	96.4	99.1	102.2	104.8	106.1	107.4	103.1
12500	95.0	96.0	96.9	99.9	102.5	104.8	105.8	106.8	103.0
16000	96.4	96.9	97.6	100.6	103.2	105.0	106.1	107.0	102.6
20000	98.0	97.4	97.7	100.6	103.3	104.3	105.5	106.8	102.8
25000	100.3	99.3	98.2	101.1	103.9	104.1	105.1	107.2	103.1
31500	101.4	100.8	99.4	101.4	102.9	103.3	104.3	106.2	102.6
40000	101.4	101.3	100.3	101.1	102.2	102.7	103.3	104.8	101.5
50000	100.3	100.3	100.1	101.4	101.4	101.8	102.2	103.1	99.6
63000	99.8	100.2	99.9	100.8	101.3	101.4	101.1	102.0	98.4
80000	99.4	99.4	99.6	100.3	100.7	100.7	100.2	100.7	97.4
TSPL	110.2	110.3	110.2	112.3	114.2	116.1	117.9	120.6	118.9
SSPL	110.2	110.3	110.2	112.2	114.2	116.0	117.9	120.6	118.7

V_∞ =	200	fps
T_a =	67	°F
RH_a =	23	%
P_a =	14.41	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3382 3382

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	111.1	110.8	110.4	112.1	113.6	115.1	116.6	119.1	118.2
SSPL	111.1	110.8	110.3	112.0	113.6	115.1	116.6	119.1	118.0

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	111.5	111.0	110.3	111.7	113.0	114.2	115.6	118.0	116.7
SSPL	111.5	111.0	110.3	111.7	113.0	114.2	115.6	118.0	116.5

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00 000000	XARF	0	3382	3382

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	77.6	77.0	77.1	71.5	74.5	76.8	76.9	77.7	80.3
125	76.0	71.0	75.0	75.1	73.2	71.4	69.4	75.0	83.2
160	63.9	73.0	76.0	75.8	75.3	73.3	70.6	76.6	84.3
200	70.2	75.3	77.3	78.7	76.4	77.9	79.1	79.3	82.8
250	77.5	80.7	80.4	80.2	81.0	81.1	80.9	84.2	88.6
315	80.9	83.1	82.9	81.7	81.6	81.5	81.7	84.7	90.4
400	83.8	83.2	81.3	82.2	81.8	82.0	85.5	87.6	92.4
500	84.8	82.2	82.9	83.5	84.0	85.9	87.9	91.9	95.4
630	83.6	85.1	85.6	86.5	87.0	88.8	91.0	94.2	98.0
800	86.8	86.8	88.8	90.1	90.5	91.4	93.5	97.3	101.0
1000	88.5	88.2	88.1	89.4	90.9	93.2	95.7	99.4	102.8
1250	90.1	90.2	90.4	92.9	94.1	96.5	98.8	102.5	105.0
1600	92.3	93.6	93.1	95.4	96.7	96.8	100.3	104.4	106.6
2000	93.9	93.7	94.4	96.7	97.3	98.8	102.1	106.2	107.9
2500	95.7	95.5	94.8	96.4	97.4	99.4	102.3	106.5	108.2
3150	94.9	95.0	94.8	96.4	97.6	100.1	102.8	106.1	107.3
4000	94.6	95.3	95.2	97.0	98.8	101.5	103.2	105.6	106.2
5000	95.0	95.9	95.8	97.8	99.6	102.4	103.8	105.4	105.4
6300	95.1	95.8	96.3	98.1	99.9	102.5	103.9	104.8	104.3
8000	96.0	95.6	96.4	98.6	101.2	103.4	104.0	104.9	104.1
10000	96.1	96.5	96.7	98.8	101.1	102.9	103.6	104.8	103.7
12500	96.3	96.7	97.2	99.5	101.4	102.9	103.3	104.2	103.2
16000	97.7	97.6	97.9	100.3	102.1	103.1	103.6	104.6	103.2
20000	99.3	98.0	97.9	100.2	102.2	102.4	103.0	104.2	103.2
25000	101.6	99.8	98.3	100.7	102.7	102.3	102.5	104.2	103.6
31500	102.7	101.3	99.5	100.9	101.7	101.5	101.7	103.3	102.8
40000	102.7	101.9	100.3	100.6	101.1	100.9	100.9	102.0	101.5
50000	101.6	100.9	100.2	100.9	100.2	100.0	99.9	100.6	99.6
63000	101.1	100.8	99.9	100.2	100.1	99.6	98.8	99.4	98.4
80000	100.7	100.0	99.7	99.7	99.5	99.0	98.0	98.3	97.2
TSPL	111.5	110.9	110.4	111.8	113.1	114.1	115.2	117.2	117.8
SSPL	111.5	110.9	110.3	111.8	113.1	114.1	115.2	117.2	117.7

V_∞ =	200	fps
T_a =	67	°F
RH_a =	23	%
P_a =	14.41	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=200 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3382 CONDITION 3382

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	2.56		0.0	2.56	THRUST,IDL	LB*******		46.1	N*******		205.0
TEMP	(R)	0.0	1299.3	(K)	0.0	721.8	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.039	KG/M3	1.066	0.630	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	1927.0	M/S	0.0	587.3	W (MODEL)	LB/S	0.0	0.8	KG/S	0.0	0.3

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	77.6	77.0	77.1	71.5	74.5	76.8	76.9	77.7	80.3	94.9
.125	76.0	71.0	75.0	75.1	73.2	71.4	69.4	75.0	83.2	93.1
.160	63.9	73.0	76.0	75.8	75.3	73.3	70.6	76.6	84.3	94.0
.200	70.2	75.3	77.3	78.7	76.4	77.9	79.1	79.3	82.8	96.2
.250	77.5	80.7	80.4	80.2	81.0	81.1	80.9	84.2	88.6	100.1
.315	80.9	83.1	82.9	81.7	81.6	81.5	81.7	84.7	90.4	101.5
.400	83.8	83.2	81.3	82.2	81.8	82.0	85.5	87.6	92.4	102.9
.500	84.8	84.2	82.9	83.5	84.0	85.9	87.9	91.9	95.4	105.6
.630	83.6	85.1	85.6	86.5	87.0	88.8	91.0	94.2	98.0	108.2
.800	86.8	86.8	88.8	90.1	90.5	91.4	93.5	97.3	101.0	111.1
1.00	88.5	88.2	88.1	89.4	90.9	93.2	95.7	99.4	102.8	112.7
1.25	90.1	90.2	90.4	92.9	94.1	96.5	98.8	102.5	105.0	115.5
1.60	92.3	93.6	93.1	95.4	96.7	96.8	100.3	104.4	106.6	117.3
2.00	93.9	93.7	94.4	96.7	97.3	98.8	102.1	106.2	107.9	118.8
2.50	95.7	95.5	94.8	96.4	97.4	99.4	102.3	106.5	108.2	119.2
3.15	94.9	95.0	94.8	96.4	97.6	100.1	102.8	106.1	107.3	119.0
4.00	94.6	95.3	95.2	97.0	98.8	101.5	103.2	105.6	106.2	119.1
5.00	95.0	95.9	95.8	97.8	99.6	102.4	103.8	105.4	105.4	119.4
6.30	95.1	95.8	96.3	98.1	99.9	102.5	103.9	104.8	104.3	119.2
8.00	96.0	95.6	96.4	98.6	101.2	103.4	104.0	104.9	104.1	119.6
10.0	96.1	96.5	96.7	98.8	101.1	102.9	103.6	104.8	103.7	119.5
12.5	96.3	96.7	97.2	99.5	101.4	102.9	103.3	104.2	103.2	119.4
16.0	97.7	97.6	97.9	100.3	102.1	103.1	103.6	104.6	103.2	119.9
20.0	99.3	98.0	97.9	100.2	102.2	102.4	103.0	104.2	103.2	119.7
25.0	101.6	99.8	98.3	100.7	102.7	102.3	102.5	104.2	103.6	120.0
31.5	102.7	101.3	99.5	100.9	101.7	101.5	101.7	103.3	102.8	119.9
40.0	102.7	101.9	100.3	100.6	101.1	100.9	100.9	102.0	101.5	119.5
50.0	101.6	100.9	100.2	100.9	100.2	100.0	99.9	100.6	99.6	118.8
63.0	101.1	100.8	99.9	100.2	100.1	99.6	98.8	99.4	98.4	118.3
80.0	100.7	100.0	99.7	99.7	99.5	99.0	98.0	98.3	97.2	117.7
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	111.5	110.9	110.4	111.8	113.1	114.1	115.2	117.2	117.8	OAPWL = 132.0

V_∞ =	200	fps
T_a =	67	°F
RH_a =	23	%
P_a =	14.41	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		.-00 000000	XARF	0	3385	3385

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	82.5	83.4	78.6	79.2	69.1	77.8	78.1	83.9	72.9
125	80.4	80.9	71.8	69.3	69.5	76.7	78.3	82.4	85.3
160	78.2	79.2	72.9	70.5	71.0	65.0	77.4	82.1	85.3
200	76.2	78.1	73.0	73.4	71.2	73.8	75.6	80.4	88.0
250	78.2	79.6	77.9	76.3	77.0	77.4	77.9	84.2	89.8
315	78.8	79.9	78.1	77.5	77.9	78.5	80.1	85.2	93.1
400	79.8	81.0	77.3	78.0	78.4	79.5	83.8	87.0	99.9
500	81.1	80.5	79.3	79.5	80.2	83.0	86.0	91.3	93.4
630	80.9	82.5	81.0	82.3	83.1	86.1	89.1	93.2	96.8
800	83.2	83.9	83.5	85.3	86.2	88.0	91.1	96.2	98.4
1000	84.5	84.6	83.6	85.1	86.6	89.6	92.8	97.4	99.5
1250	84.5	85.5	85.2	87.4	88.9	91.8	94.7	98.7	99.8
1600	85.5	86.9	86.1	88.7	90.5	91.7	95.0	98.8	99.4
2000	85.8	87.0	86.9	89.2	90.8	93.0	95.8	98.8	97.8
2500	86.7	87.5	87.1	89.1	90.9	93.4	96.0	98.2	95.8
3150	86.5	87.8	87.6	89.6	91.4	94.2	96.5	97.4	94.2
4000	86.9	88.1	88.2	90.4	92.6	95.5	96.9	97.1	93.0
5000	87.5	89.0	89.1	91.4	93.6	96.3	97.4	96.6	93.0
6300	87.7	88.8	89.5	91.7	93.9	96.6	97.1	96.3	92.9
8000	88.7	89.0	90.0	92.3	95.0	97.9	97.3	96.7	92.8
10000	88.9	89.8	90.2	92.6	95.2	97.7	97.3	97.1	92.9
12500	88.6	89.8	90.7	93.2	95.2	97.0	97.1	97.1	93.7
16000	88.8	90.1	91.1	93.7	95.7	96.9	97.0	97.5	94.8
20000	88.0	89.6	90.7	93.3	95.2	95.7	95.3	96.1	94.0
25000	88.0	89.6	90.7	93.4	95.6	95.3	94.8	95.3	92.7
31500	87.3	89.1	90.3	93.3	94.5	94.4	93.7	93.5	90.9
40000	87.3	88.8	90.2	92.6	93.6	93.7	92.9	91.9	89.6
50000	86.6	88.1	89.7	92.4	92.8	92.8	91.8	90.5	88.0
63000	86.0	87.7	89.1	91.3	92.0	92.0	90.4	89.3	86.5
80000	85.6	86.8	88.2	90.4	91.2	91.2	89.4	88.2	85.9
TSPL	100.6	101.8	102.3	104.7	106.4	108.0	108.7	109.9	109.6
SSPL	100.4	101.6	102.2	104.6	106.4	108.0	108.7	109.8	108.9

V_∞ =	203	fps
T_a =	69	°F
RH_a =	23	%
P_a =	14.40	psia

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3385 3385

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	101.5	102.4	102.5	104.5	105.9	107.1	107.4	108.4	108.9
SSPL	101.3	102.1	102.4	104.4	105.8	107.1	107.4	108.4	108.2

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	101.9	102.5	102.4	104.1	105.3	106.2	106.4	107.4	107.4
SSPL	101.7	102.3	102.3	104.1	105.2	106.2	106.3	107.3	106.6

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK LD DATE ENG MOD ENG NO STND C OBS CORR
W631 315 05/07/76 -00 000000 XARF 0 3385 338!

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	83.8	83.8	78.4	78.1	67.8	75.6	75.5	80.0	78.5
125	81.7	81.1	71.0	68.5	68.5	74.5	75.6	78.0	81.3
160	79.5	79.6	72.2	69.9	69.6	63.1	72.4	78.0	81.1
200	77.5	78.5	72.6	72.6	70.0	71.8	72.7	75.3	80.8
250	79.5	80.2	77.6	75.7	75.8	75.6	75.1	78.6	84.1
315	80.1	80.5	77.9	76.9	76.7	76.7	77.2	80.0	85.7
400	81.1	81.5	77.1	77.4	77.2	77.5	80.5	82.2	88.9
500	82.4	81.1	79.3	79.0	79.0	81.0	82.9	86.6	90.0
630	82.2	83.2	81.0	81.8	81.9	84.1	86.0	88.8	92.3
800	84.5	84.5	83.6	84.8	85.0	86.0	87.9	91.5	94.9
1000	85.8	85.2	83.7	84.6	85.5	87.6	89.7	93.0	96.0
1250	85.8	86.2	85.3	87.0	87.8	89.8	91.7	94.6	97.0
1600	86.8	87.5	86.2	88.3	89.4	89.8	91.9	94.8	96.9
2000	87.2	87.6	87.1	88.8	89.7	91.1	92.9	95.3	96.3
2500	88.0	88.2	87.3	88.7	89.8	91.5	93.2	95.2	95.2
3150	87.8	88.5	87.8	89.2	90.2	92.2	93.8	94.9	94.0
4000	88.3	88.8	88.3	90.0	91.5	93.5	94.4	94.9	93.3
5000	88.8	89.7	89.3	91.0	92.5	94.3	95.1	94.8	92.9
6300	89.0	89.5	89.7	91.3	92.8	94.7	94.9	94.5	92.7
8000	90.0	89.7	90.3	92.0	94.0	96.1	95.3	94.8	93.0
10000	90.2	90.5	90.4	92.2	94.1	95.8	95.2	95.0	93.3
12500	89.9	90.5	90.9	92.8	94.0	95.1	94.8	94.9	93.5
16000	90.1	90.9	91.4	93.3	94.6	95.1	94.7	95.0	94.2
20000	89.3	90.4	91.0	92.9	94.0	93.9	93.1	93.4	93.0
25000	89.3	90.3	91.0	93.0	94.4	93.5	92.6	92.7	92.0
31500	88.6	89.9	90.6	92.9	93.3	92.7	91.6	91.2	90.2
40000	88.6	89.6	90.5	92.2	92.5	92.0	90.9	90.0	88.6
50000	87.9	88.9	90.1	91.9	91.6	91.1	89.9	88.7	87.1
63000	87.3	88.5	89.4	90.9	90.9	90.3	88.6	87.5	85.9
80000	86.9	87.6	88.5	89.9	90.0	89.5	87.6	86.2	84.8
TSPL	101.9	102.5	102.6	104.3	105.3	106.2	106.3	107.0	107.3
SSPL	101.7	102.3	102.5	104.2	105.3	106.2	106.3	107.0	107.1

V_∞ =	203	fps
T_a =	69	°F
RH_a =	23	%
P_a =	14.40	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=203 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3385 CONDITION 3385

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT		0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.			0.0	1.84		0.0	1.84	THRUST,IDL	LB*******		26.7	N*******		118.8
TEMP	(R)		0.0	1262.0	(K)	0.0	701.1	THRUST,MEA	LB		0.0	N		0.0
RHO	LB/FT3		0.067	0.037	KG/M3	1.066	0.595	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS		0.0	1563.0	M/S	0.0	476.4	W (MODEL)	LB/S	0.0	0.6	KG/S	0.0	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	83.8	83.8	78.4	78.1	67.8	75.6	75.5	80.0	78.5	97.9
.125	81.7	81.1	71.0	68.5	68.5	74.5	75.6	78.0	81.3	95.4
.160	79.5	79.6	72.2	69.9	69.6	63.1	72.4	78.0	81.1	94.0
.200	77.5	78.5	72.6	72.6	70.0	71.8	72.7	75.3	80.8	93.4
.250	79.5	80.2	77.6	75.7	75.8	75.6	75.1	78.6	84.1	96.4
.315	80.1	80.5	77.9	76.9	76.7	76.7	77.2	80.0	85.7	97.4
.400	81.1	81.5	77.1	77.4	77.2	77.5	80.5	82.2	88.9	99.0
.500	82.4	81.1	79.3	79.0	79.0	81.0	82.9	86.6	90.0	100.9
.630	82.2	83.2	81.0	81.8	81.9	84.1	86.0	88.8	92.3	103.3
.800	84.5	84.5	83.6	84.8	85.0	86.0	87.9	91.5	94.9	105.7
1.00	85.8	85.2	83.7	84.6	85.5	87.6	89.7	93.0	96.0	106.8
1.25	85.8	86.2	85.3	87.0	87.8	89.8	91.7	94.6	97.0	108.4
1.60	86.8	87.5	86.2	88.3	89.4	89.8	91.9	94.8	96.9	108.9
2.00	87.2	87.6	87.1	88.8	89.7	91.1	92.9	95.3	96.3	109.4
2.50	88.0	88.2	87.3	88.7	89.8	91.5	93.2	95.2	95.2	109.4
3.15	87.8	88.5	87.8	89.2	90.2	92.2	93.8	94.9	94.0	109.6
4.00	88.3	88.8	88.3	90.0	91.5	93.5	94.4	94.9	93.3	110.2
5.00	88.8	89.7	89.3	91.0	92.5	94.3	95.1	94.8	92.9	110.8
6.30	89.0	89.5	89.7	91.3	92.8	94.7	94.9	94.5	92.7	110.9
8.00	90.0	89.7	90.3	92.0	94.0	96.1	95.3	94.8	93.0	111.7
10.0	90.2	90.5	90.4	92.2	94.1	95.8	95.2	95.0	93.3	111.7
12.5	89.9	90.5	90.9	92.8	94.0	95.1	94.8	94.9	93.5	111.6
16.0	90.1	90.9	91.4	93.3	94.6	95.1	94.7	95.0	94.2	111.9
20.0	89.3	90.4	91.0	92.9	94.0	93.9	93.1	93.4	93.0	110.9
25.0	89.3	90.3	91.0	93.0	94.4	93.5	92.6	92.7	92.0	110.8
31.5	88.6	89.9	90.6	92.9	93.3	92.7	91.6	91.2	90.2	110.0
40.0	88.6	89.6	90.5	92.2	92.5	92.0	90.9	90.0	88.6	109.3
50.0	87.9	88.9	90.1	91.9	91.6	91.1	89.9	88.7	87.1	108.6
63.0	87.3	88.5	89.4	90.9	90.9	90.3	88.6	87.5	85.9	107.8
80.0	86.9	87.6	88.5	89.9	90.0	89.5	87.6	86.2	84.8	106.9
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	101.9	102.5	102.6	104.3	105.3	106.2	106.3	107.0	107.3	

DAPWL = 123.2

V_∞ =	203	fps
T_a =	69	°F
RH_a =	23	%
P_a =	14.40	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS CORR
W631	315	05/07/76		-00 000000	XARF	0	3386 3386

DBTF JET NOISE TEST COANNULAR NOZ AR= 0.75 CONF 2 TAPE 4224 10.2049

JET NOISE SPECTRA WITH BACKGROUND NOISE REMOVED

BAND CENTER FREQ (HZ)	MICROPHONE ANGLES IN DEGREES								
	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0
100	85.2	85.5	80.1	74.3	72.3	77.7	79.1	85.5	83.8
125	83.3	84.2	78.7	74.1	68.2	76.1	78.4	84.9	87.1
160	82.7	83.0	77.3	72.4	65.7	75.9	77.3	82.3	85.3
200	80.8	81.6	76.4	71.7	61.8	74.7	76.4	80.4	86.3
250	80.3	81.1	76.0	71.9	68.6	64.7	65.8	79.8	89.8
315	79.6	79.9	75.5	71.0	68.2	68.3	71.2	81.1	91.8
400	78.8	79.7	73.6	71.9	70.0	71.1	75.1	80.9	97.5
500	78.1	78.2	74.6	72.6	72.0	74.2	77.2	82.2	85.6
630	77.3	77.9	74.9	74.0	74.3	77.1	79.1	82.8	85.3
800	77.5	77.3	75.3	75.4	76.1	78.1	79.8	83.6	85.1
1000	76.8	76.7	75.0	75.2	76.2	78.3	80.3	83.3	84.1
1250	75.9	76.5	75.1	75.9	77.3	79.6	81.1	83.3	83.1
1600	75.9	76.5	75.5	76.9	78.6	79.7	81.4	83.3	82.4
2000	76.1	76.3	76.0	77.5	79.2	81.0	82.6	83.9	81.6
2500	77.2	76.9	76.7	78.1	79.8	81.8	83.1	84.1	80.8
3150	77.9	77.8	77.6	79.0	80.6	82.8	84.2	84.0	80.5
4000	78.5	78.4	78.6	80.4	82.5	85.0	85.5	84.8	80.4
5000	79.8	80.2	80.1	82.1	84.4	86.9	87.4	85.5	81.5
6300	80.2	80.5	81.3	82.9	84.6	87.3	87.6	85.6	82.0
8000	81.5	80.7	81.7	83.5	85.4	87.5	87.0	85.8	81.7
10000	81.9	81.6	82.0	83.7	85.5	86.7	85.7	85.0	81.0
12500	80.8	81.0	82.0	83.8	85.0	86.0	84.1	82.9	79.1
16000	79.4	80.6	81.8	83.8	85.0	85.4	83.5	82.0	77.7
20000	79.1	79.9	81.2	83.0	84.3	84.2	82.0	80.4	76.3
25000	79.1	79.9	80.9	83.1	84.4	83.7	81.3	80.1	75.6
31500	78.5	79.4	80.6	82.9	83.4	82.7	80.3	78.6	74.6
40000	78.5	79.2	80.4	82.1	82.7	82.1	79.6	77.6	74.4
50000	78.2	78.5	80.0	82.1	82.2	81.8	78.9	77.1	74.7
63000	77.3	78.3	79.8	81.5	82.2	82.1	78.2	77.0	76.6
80000	75.9	76.5	79.8	81.3	82.1	82.7	78.2	77.8	79.5
TSPL	94.5	94.9	93.8	95.0	96.1	97.4	97.1	97.7	101.1
SSPL	92.3	92.6	93.1	94.8	96.1	97.3	96.8	96.6	95.0

V_∞ =	201	fps
T_a =	65	°F
RH_a =	38	%
P_a =	14.40	psia

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00 000000	XARF	0	3386	3386

DBTF JET NOISE TEST COANNULAR NOZ AR=
0.75 CONF 2 TAPE 4224 10.2049

ANGLES AND TOTAL SPL RESULTING FROM SHEAR LAYER REFRACTION CORRECTIONS

ANGLES IN DEGREES

	80.	89.	99.	109.	119.	129.	140.	150.	160.
TSPL	95.4	95.4	94.0	94.8	95.6	96.5	95.8	96.2	100.4
SSPL	93.2	93.1	93.3	94.6	95.5	96.3	95.5	95.1	94.3

ANGLES AND TOTAL SPL AFTER MOVING MEDIUM CORRECTIONS

ANGLES IN DEGREES (NOISE EMISSION ANGLES)

	70.	79.	89.	99.	110.	121.	133.	146.	156.
TSPL	95.8	95.6	93.9	94.4	95.0	95.6	94.7	95.1	98.9
SSPL	93.6	93.3	93.2	94.2	94.9	95.4	94.5	94.0	92.8

ORIGINAL MICROPHONE ANGLES

70.	80.	90.	100.	110.	120.	130.	140.	150.

DECK	LD	DATE	ENG	MOD ENG NO	STND	C	OBS	CORR
W631	315	05/07/76		-00 000000	XARF	0	3386	3386

DBTF JET NOISE TEST COANNULAR NOZ AR= 10.2049
0.75 CONF 2 TAPE 4224

SPL SPECTRA CORRECTED FOR SHEAR LAYER REFRACTION AND MOVING MEDIUM EFFECTS
(INTERPOLATED TO THE ORIGINAL ANGLES)

BAND CENTER FREQ (HZ)	NOISE EMISSION ANGLES IN DEGREES								
	70	80	90	100	110	120	130	140	150
100	86.5	85.9	79.2	73.3	71.2	75.6	76.2	80.6	83.1
125	84.6	84.5	77.9	73.0	67.1	73.9	75.4	79.6	83.7
160	84.0	83.3	76.5	71.2	64.6	73.6	74.6	77.5	81.3
200	82.1	82.0	75.6	70.4	60.7	72.2	73.8	75.8	80.2
250	81.6	81.5	75.3	70.9	67.2	63.1	62.3	70.6	81.8
315	80.9	80.3	74.8	70.1	66.9	66.4	67.7	73.6	82.9
400	80.1	80.0	73.0	71.1	68.7	69.1	71.7	74.6	84.2
500	79.4	78.7	74.1	71.8	70.8	72.3	74.1	77.5	81.3
630	78.6	78.4	74.6	73.3	73.1	75.2	76.3	78.6	81.4
800	78.8	77.8	75.2	74.8	75.0	76.2	77.0	79.5	82.0
1000	78.1	77.3	74.9	74.6	75.0	76.4	77.5	79.5	81.4
1250	77.2	77.1	75.0	75.4	76.2	77.7	78.5	80.0	81.0
1600	77.3	77.1	75.6	76.4	77.4	77.8	78.8	80.1	80.7
2000	77.4	76.9	76.1	77.1	78.1	79.1	80.0	81.1	80.8
2500	78.5	77.5	76.8	77.6	78.6	79.9	80.6	81.5	80.7
3150	79.2	78.4	77.7	78.6	79.5	80.9	81.8	82.0	80.4
4000	79.8	79.0	78.7	80.0	81.4	83.1	83.2	83.0	80.9
5000	81.1	80.8	80.3	81.7	83.3	85.0	85.2	84.1	81.5
6300	81.5	81.2	81.4	82.4	83.5	85.4	85.5	84.2	81.8
8000	82.8	81.4	81.9	83.1	84.3	85.7	85.0	84.1	81.9
10000	83.3	82.3	82.1	83.2	84.3	84.9	83.7	83.1	81.2
12500	82.1	81.7	82.3	83.4	83.8	84.2	82.4	81.2	79.1
16000	81.3	81.4	82.0	83.3	83.8	83.7	81.8	80.4	78.0
20000	80.4	80.7	81.4	82.5	83.1	82.5	80.3	78.8	76.5
25000	80.4	80.6	81.1	82.6	83.2	82.0	79.6	78.3	76.1
31500	79.8	80.1	80.9	82.4	82.2	81.0	78.6	77.0	74.7
40000	79.8	79.9	80.7	81.6	81.5	80.5	78.0	76.1	74.0
50000	79.5	79.2	80.3	81.6	81.0	80.1	77.4	75.4	73.7
63000	78.6	79.0	80.0	81.0	81.0	80.4	76.7	74.8	74.3
80000	77.2	77.3	80.1	80.8	80.9	81.1	76.8	75.0	75.8
TSPL	95.8	95.4	93.8	94.5	95.0	95.6	94.9	94.8	95.5
SSPL	93.6	93.2	93.3	94.3	94.9	95.5	94.7	94.3	93.5

V_∞ =	201	fps
T_a =	65	°F
RH_a =	38	%
P_a =	14.40	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=201 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3386 CONDITION 3386

		PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
AREA	SQFT	0.0	0.0	SQM	0.0	0.0	MASS FLOW	LB/S	0.0	0.0	KG/S	0.0	0.0
P.R.		0.0	1.35		0.0	1.35	THRUST,IDL	LB*******		11.8	N*******		52.5
TEMP	(R)	0.0	1194.0	(K)	0.0	663.3	THRUST,MEA	LB	0.0		N	0.0	
RHO	LB/FT3	0.067	0.036	KG/M3	1.066	0.581	AREA (MOD)	SQFT	0.0	0.01	SQM	0.0	0.001
VEL	FPS	0.0	1086.0	M/S	0.0	331.0	W (MODEL)	LB/S	0.0	0.4	KG/S	0.0	0.2

1/3 OCTAVE BAND MODEL JET NOISE DATA 10.0FT RADIUS THEORETICAL DAY SPL - (MODEL)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.080	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
.100	86.5	85.9	79.2	73.3	71.2	75.6	76.2	80.6	83.1	99.5
.125	84.6	84.5	77.9	73.0	67.1	73.9	75.4	79.6	83.7	98.2
.160	84.0	83.3	76.5	71.2	64.6	73.6	74.6	77.5	81.3	96.9
.200	82.1	82.0	75.6	70.4	60.7	72.2	73.8	75.8	80.2	95.5
.250	81.6	81.5	75.3	70.9	67.2	63.1	62.3	70.6	81.8	94.8
.315	80.9	80.3	74.8	70.1	66.9	66.4	67.7	73.6	82.9	94.4
.400	80.1	80.0	73.0	71.1	68.7	69.1	71.7	74.6	84.2	94.6
.500	79.4	78.7	74.1	71.8	70.8	72.3	74.1	77.5	81.3	94.3
.630	78.6	78.4	74.6	73.3	73.1	75.2	76.3	78.6	81.4	94.9
.800	78.8	77.8	75.2	74.8	75.0	76.2	77.0	79.5	82.0	95.5
1.00	78.1	77.3	74.9	74.6	75.0	76.4	77.5	79.5	81.4	95.3
1.25	77.2	77.1	75.0	75.4	76.2	77.7	78.5	80.0	81.0	95.7
1.60	77.3	77.1	75.6	76.4	77.4	77.8	78.8	80.1	80.7	96.1
2.00	77.4	76.9	76.1	77.1	78.1	79.1	80.0	81.1	80.8	96.8
2.50	78.5	77.5	76.8	77.6	78.6	79.9	80.6	81.5	80.7	97.3
3.15	79.2	78.4	77.7	78.6	79.5	80.9	81.8	82.0	80.4	98.2
4.00	79.8	79.0	78.7	80.0	81.4	83.1	83.2	83.0	80.9	99.6
5.00	81.1	80.8	80.3	81.7	83.3	85.0	85.2	84.1	81.5	101.2
6.30	81.5	81.2	81.4	82.4	83.5	85.4	85.5	84.2	81.8	101.6
8.00	82.8	81.4	81.9	83.1	84.3	85.7	85.0	84.1	81.9	102.0
10.0	83.3	82.3	82.1	83.2	84.3	84.9	83.7	83.1	81.2	101.7
12.5	82.1	81.7	82.3	83.4	83.8	84.2	82.4	81.2	79.1	101.0
16.0	81.3	81.4	82.0	83.3	83.8	83.7	81.8	80.4	78.0	100.7
20.0	80.4	80.7	81.4	82.5	83.1	82.5	80.3	78.8	76.5	99.8
25.0	80.4	80.6	81.1	82.6	83.2	82.0	79.6	78.3	76.1	99.6
31.5	79.8	80.1	80.9	82.4	82.2	81.0	78.6	77.0	74.7	98.9
40.0	79.8	79.9	80.7	81.6	81.5	80.5	78.0	76.1	74.0	98.4
50.0	79.5	79.2	80.3	81.6	81.0	80.1	77.4	75.4	73.7	98.0
63.0	78.6	79.0	80.0	81.0	81.0	80.4	76.7	74.8	74.3	97.8
80.0	77.2	77.3	80.1	80.8	80.9	81.1	76.8	75.0	75.8	97.6
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSPL	95.8	95.4	93.8	94.5	95.0	95.6	94.9	94.9	95.5	OAPWL = 113.3

V_∞ =	201	fps
T_a =	65	°F
RH_a =	38	%
P_a =	14.40	psia

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3362 CONDITION 3362

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	465.7	389.8	KG/S	211.3	176.8
PRES	25.00IN	0.85BAR	P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	14266.1	22771.3	N	63458.6	101291.4
WIND D			TEMP	(R)	723.3	1262.7	(K)	401.8	701.5	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.062	0.040	KG/M3	0.994	0.645	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	986.3	1881.0	M/S	300.6	573.3	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	90.5	91.6	91.2	93.1	94.2	95.8	97.5	99.7	101.5	141.0
.063	91.9	92.5	92.8	94.7	95.4	96.1	98.5	100.6	101.6	141.8
.080	93.0	93.2	93.6	95.3	96.6	97.9	100.2	101.9	101.7	143.0
.100	94.8	94.6	94.5	96.1	97.1	99.0	101.3	102.3	101.4	143.7
.125	95.1	95.3	95.7	97.0	98.4	100.4	102.5	102.6	100.8	144.6
.160	96.1	96.1	96.5	97.9	99.8	102.3	103.5	103.5	101.3	145.7
.200	97.0	97.5	97.4	99.5	101.3	103.6	104.8	104.1	101.6	146.8
.250	97.3	97.5	98.3	100.3	102.0	104.6	105.1	104.2	102.0	147.4
.315	98.2	98.1	98.8	101.0	103.1	105.8	105.8	105.0	102.7	148.3
.400	98.4	98.9	99.5	101.6	103.6	105.9	105.8	105.4	103.3	148.6
.500	98.3	98.8	99.7	102.1	104.0	105.8	106.0	105.4	103.5	148.7
.630	98.9	99.4	100.0	102.3	104.7	106.1	106.4	105.8	103.8	149.1
.800	98.7	98.7	99.7	101.9	104.1	105.3	105.7	105.2	103.4	148.5
1.00	100.9	99.9	99.7	101.9	104.5	104.8	105.1	105.5	104.2	148.6
1.25	104.5	101.9	100.2	101.4	103.6	104.1	104.4	104.7	103.4	148.5
1.60	105.1	104.0	101.8	101.5	103.0	103.5	103.4	103.5	102.3	148.5
2.00	103.4	103.4	103.1	102.8	102.6	102.9	102.8	102.5	100.8	148.2
2.50	103.1	102.8	102.8	103.1	103.1	102.7	102.0	101.6	99.9	148.0
3.15	104.6	103.5	103.0	103.4	103.6	103.1	102.0	101.3	99.5	148.4
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
									OAPWL =	160.1
OSPL	113.1	112.5	112.3	113.5	115.0	116.3	116.7	116.5	115.0	
PNL	124.6	123.9	123.5	124.4	125.2	125.6	125.4	125.0	123.4	
200. SIDELINE										
PNL	121.3	121.0	120.8	121.5	122.0	121.6	120.2	118.2	114.1	
370. SIDELINE										
PNL	115.2	115.0	114.8	115.5	115.9	115.6	114.1	112.0	107.7	
800. SIDELINE										
PNL	106.7	106.6	106.5	107.2	107.6	107.2	105.6	103.4	98.8	
2128. SIDELINE										
PNL	93.6	93.7	93.7	94.4	94.8	95.1	93.8	91.4	86.2	

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=99 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3363 CONDITION 3363

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	465.7	443.0	KG/S	211.3	200.9
PRES	25.00IN	0.85BAR	P.R.		1.53	2.50		1.53	2.50	THRUST,IDL	LB	14321.1	25877.4	N	63703.1	115107.9
WIND D			TEMP	(R)	710.3	1267.0	(K)	394.6	703.9	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.063	0.040	KG/M3	1.016	0.642	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	990.1	1881.0	M/S	301.8	573.3	W (MODEL)	LB/S	0.9	0.9	KG/S	0.4	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ) — MICROPHONE ANGLES IN DEGREES

	70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	91.9	93.2	93.2	95.1	96.4	98.7	101.1	104.0	105.9	144.4
.063	93.2	93.9	94.8	96.6	98.3	99.4	102.3	104.6	105.4	145.1
.080	94.5	94.7	95.5	97.3	99.4	101.0	103.8	105.5	105.2	146.1
.100	96.0	96.1	96.2	98.2	99.6	101.9	104.7	105.7	104.5	146.6
.125	95.9	96.7	97.1	99.2	100.8	103.2	105.7	105.6	104.2	147.3
.160	97.1	97.3	98.1	100.2	102.3	105.0	106.5	106.6	104.6	148.4
.200	98.1	98.9	99.0	101.5	103.5	106.4	107.6	106.7	104.8	149.3
.250	98.2	98.7	99.9	102.0	104.3	107.2	107.8	107.0	105.3	149.8
.315	99.2	99.2	100.3	102.7	105.4	108.5	108.3	107.7	105.9	150.7
.400	99.4	100.0	100.6	103.1	105.6	108.3	108.4	108.1	106.5	150.8
.500	99.1	100.0	100.8	103.6	106.2	108.3	108.7	108.2	107.1	151.1
.630	99.6	100.2	101.1	103.7	106.7	108.3	108.8	108.4	107.7	151.2
.800	99.0	99.5	100.6	103.2	106.0	107.5	108.3	108.1	107.3	150.7
1.00	100.3	100.1	100.5	103.0	106.3	106.9	107.7	108.7	107.6	150.6
1.25	103.6	101.5	100.6	102.6	105.2	105.9	106.8	107.6	106.0	150.0
1.60	104.8	103.8	101.9	102.4	104.6	105.3	105.6	106.4	104.9	149.7
2.00	103.3	103.5	103.1	103.5	103.8	104.7	104.8	105.3	103.6	149.3
2.50	102.0	102.5	102.8	103.7	104.0	104.1	104.0	104.4	102.6	148.9
3.15	103.4	102.6	102.6	103.8	104.3	104.1	104.1	104.3	102.2	149.0
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 162.1

OSPL	113.0	112.8	112.9	114.8	116.9	118.6	119.3	119.5	118.4
PNL	124.0	123.7	123.7	125.2	126.5	127.3	127.8	128.0	126.4

200. SIDELINE

PNL	120.7	120.8	121.1	122.4	123.3	123.3	122.6	121.1	117.1

370. SIDELINE

PNL	114.7	114.8	115.1	116.4	117.3	117.3	116.5	114.9	110.7

800. SIDELINE

PNL	106.2	106.5	106.8	108.1	109.0	109.0	108.1	106.3	102.0

2128. SIDELINE

PNL	93.6	94.0	94.3	95.6	96.5	97.4	96.5	94.3	89.6

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=31 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3364 CONDITION 3364

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	470.8	399.9	KG/S	213.6	181.4
PRES	25.001N	0.85BAR	P.R.		1.52	2.51		1.52	2.51	THRUST,IDL	LB	14219.4	23437.3	N	63250.8	104253.9
WIND D			TEMP	(R)	699.5	1272.0	(K)	388.6	706.7	THRUST,MEA	LB		0.0	N		0.0
WIND V	OMPH	0.0M/S	RHO	LB/FT3	0.064	0.040	KG/M3	1.029	0.640	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	972.5	1887.0	M/S	296.4	575.2	W (MODEL)	LB/S	0.9	0.8	KG/S	0.4	0.4

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	92.8	93.5	94.6	96.3	98.0	100.9	103.8	107.4	109.7	147.2
.063	93.5	94.6	95.5	97.8	100.0	101.5	104.8	107.6	108.9	147.6
.080	94.8	95.7	96.5	98.1	100.6	103.0	106.2	108.2	108.3	148.3
.100	96.4	96.7	97.2	99.2	101.2	104.0	107.2	108.4	107.6	148.9
.125	96.3	97.2	97.9	100.1	102.3	105.1	108.0	108.1	107.4	149.3
.160	97.7	98.2	99.0	101.5	103.9	107.2	108.9	109.3	107.7	150.5
.200	98.2	99.4	100.0	102.7	104.8	108.2	109.5	109.0	108.4	151.1
.250	98.0	99.1	100.4	102.9	105.4	108.7	109.4	109.6	109.2	151.5
.315	99.2	99.7	101.0	103.7	106.6	110.2	110.1	110.5	109.9	152.5
.400	99.6	100.2	101.3	103.9	106.8	110.2	110.2	110.5	110.6	152.7
.500	98.9	99.8	101.1	104.0	106.9	109.6	110.1	110.5	111.6	152.5
.630	98.9	99.8	101.1	104.0	107.1	109.4	110.1	110.7	112.4	152.6
.800	98.3	99.1	100.2	103.0	106.2	108.1	109.3	109.9	111.2	151.7
1.00	98.8	99.1	99.8	102.8	106.3	107.2	108.5	110.0	110.2	151.3
1.25	101.1	99.7	99.5	101.9	104.8	106.0	107.1	108.7	107.9	150.1
1.60	102.2	101.7	100.4	101.6	104.0	105.2	105.8	107.4	107.1	149.5
2.00	100.9	101.4	101.4	102.2	103.2	104.4	105.1	106.2	106.0	148.8
2.50	99.7	100.6	101.2	102.3	103.2	103.9	104.3	105.4	105.0	148.4
3.15	100.3	100.2	100.7	102.3	103.3	103.6	104.1	104.9	104.8	148.1
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 163.3

OSPL	111.6	112.0	112.6	114.8	117.4	119.8	120.8	121.6	121.9
PNL	121.9	122.1	122.7	124.5	126.3	127.7	128.5	129.4	129.4
			200. SIDELINE						
PNL	118.7	119.3	120.0	121.7	123.0	123.7	123.3	122.5	120.1
			370. SIDELINE						
PNL	112.6	113.3	114.0	115.8	117.1	117.7	117.3	116.4	113.7
			800. SIDELINE						
PNL	104.3	105.1	105.9	107.5	108.9	109.6	109.0	108.0	105.6
			2128. SIDELINE						
PNL	92.0	92.9	93.5	95.2	97.1	98.7	98.0	96.6	93.4

STAND XARF RIG ID VT=31 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3365 CONDITION 3365

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F) 25.0(C)	AREA SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	486.0	273.4	KG/S	220.4	124.0
PRES	25.00IN 0.85BAR	P.R.	1.53	1.81		1.53	1.81	THRUST,IDL	LB	14577.0	13032.0	N	64841.3	57969.0
WIND D		TEMP (R)	679.5	1251.7	(K)	377.5	695.4	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH 0.0M/S	RHO LB/FT3	0.066	0.037	KG/M3	1.062	0.598	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%	VEL FPS	965.6	1535.0	M/S	294.4	467.9	W (MODEL)	LB/S	1.0	0.5	KG/S	0.4	0.2

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	88.7	89.6	90.2	92.1	93.7	96.3	98.9	102.0	104.2	142.2
.063	89.4	90.6	91.4	93.6	95.6	97.0	99.5	102.0	103.5	142.5
.080	90.8	91.5	92.4	94.2	96.3	98.3	100.6	102.6	102.8	143.2
.100	92.1	92.5	93.2	95.2	96.9	99.1	101.4	102.5	101.9	143.6
.125	92.1	92.8	93.7	95.8	97.7	99.8	102.0	102.0	101.3	143.8
.160	93.3	93.7	94.5	96.7	99.0	101.4	102.7	102.6	101.1	144.6
.200	93.5	94.6	95.3	97.8	99.6	102.1	102.9	101.9	101.2	145.0
.250	93.3	94.2	95.4	97.8	100.0	102.2	102.7	102.0	101.4	145.0
.315	94.3	94.6	96.0	98.3	100.8	103.2	102.6	102.5	101.4	145.6
.400	94.1	94.8	95.9	98.3	100.9	103.1	102.6	102.2	101.0	145.5
.500	93.2	94.3	95.5	98.2	100.7	102.2	101.8	101.9	101.2	145.0
.630	93.1	93.9	95.1	98.0	100.6	102.0	101.3	101.5	101.1	144.7
.800	92.3	93.2	94.3	96.8	99.5	100.8	100.1	99.9	99.7	143.5
1.00	91.4	92.3	93.8	96.4	99.3	99.9	99.1	99.3	99.4	142.9
1.25	90.3	91.5	92.7	95.4	97.9	98.6	97.8	97.4	97.6	141.6
1.60	90.2	91.4	92.5	95.0	97.3	97.7	96.6	96.3	96.5	140.8
2.00	90.0	91.0	92.3	94.9	96.4	97.0	96.0	95.0	95.2	140.1
2.50	89.6	90.8	92.0	94.3	96.0	96.3	94.9	94.0	94.2	139.5
3.15	90.3	90.9	92.3	94.4	95.8	96.0	94.8	93.7	93.9	139.4
4.00	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	57.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 156.3

OSPL	104.8	105.6	106.7	109.1	111.4	113.1	113.4	113.7	113.5
PNL	113.4	114.2	115.4	117.7	119.6	120.6	120.1	119.7	119.6
	200. SIDELINE								
PNL	110.2	111.4	112.8	114.9	116.4	116.6	114.9	112.9	110.3
	370. SIDELINE								
PNL	104.2	105.4	106.8	109.0	110.4	110.6	108.9	106.8	104.1
	800. SIDELINE								
PNL	95.9	97.2	98.7	100.8	102.3	102.5	101.0	99.1	95.9
	2128. SIDELINE								
PNL	84.1	85.5	86.8	89.1	91.0	91.7	90.2	87.9	84.0

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=101 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3366 CONDITION 3366

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	475.9	293.6	KG/S	215.9	133.2
PRES	25.00IN	0.85BAR	P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	14412.2	13805.8	N	64108.4	61411.1
WIND D			TEMP	(R)	698.3	1225.7	(K)	387.9	680.9	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.064	0.038	KG/M3	1.032	0.610	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	975.2	1514.0	M/S	297.2	461.5	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	87.4	88.8	88.6	90.5	91.7	93.4	95.5	97.7	99.2	138.7
.063	88.7	89.4	89.9	91.8	93.3	94.2	96.1	98.0	98.9	139.3
.080	89.7	90.2	90.8	92.4	94.2	95.7	97.4	98.8	98.6	140.2
.100	91.0	91.2	91.3	93.2	94.6	96.2	98.0	99.0	97.9	140.6
.125	91.0	91.7	92.2	94.1	95.4	97.1	98.9	98.5	97.1	141.0
.160	91.9	92.2	92.8	94.8	96.7	98.5	99.4	99.2	97.0	141.8
.200	92.8	93.5	93.7	96.0	97.7	99.7	100.2	99.1	96.9	142.7
.250	92.5	93.3	94.3	96.3	98.1	100.0	100.1	99.0	97.0	142.8
.315	93.4	93.5	94.6	96.8	99.0	100.9	100.1	99.3	97.2	143.4
.400	93.6	94.1	94.7	97.0	99.2	100.8	99.9	99.4	97.2	143.4
.500	92.9	93.8	94.7	97.2	99.2	100.4	99.6	98.9	97.1	143.2
.630	93.2	93.8	94.6	97.1	99.6	100.4	99.6	98.6	96.8	143.2
.800	92.2	93.0	94.0	96.2	98.6	99.5	98.4	97.3	95.5	142.2
1.00	91.5	92.5	93.6	95.9	98.4	98.5	97.6	96.8	94.9	141.6
1.25	90.7	91.9	92.9	95.0	97.3	97.5	96.7	95.2	93.0	140.6
1.60	90.5	91.3	92.5	94.5	96.5	96.3	95.0	93.6	91.5	139.6
2.00	89.8	90.5	91.8	94.1	95.2	95.5	94.1	92.1	89.8	138.7
2.50	89.2	90.1	91.3	93.0	94.5	94.3	92.6	90.7	88.4	137.8
3.15	89.7	89.9	91.2	93.0	94.0	93.8	92.1	90.1	87.6	137.5
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 154.1

OSPL	104.2	104.9	105.7	107.9	109.8	111.0	110.8	110.4	109.1
PNL	113.0	113.5	114.5	116.5	118.0	118.5	117.6	116.5	114.5
			200. SIDELINE						
PNL	109.7	110.6	111.8	113.7	114.8	114.5	112.5	109.7	105.3
			370. SIDELINE						
PNL	103.7	104.7	105.9	107.7	108.8	108.6	106.5	103.7	99.4
			800. SIDELINE						
PNL	95.4	96.5	97.7	99.6	100.8	100.4	98.5	96.0	91.4
			2128. SIDELINE						
PNL	83.6	84.8	85.8	87.9	89.3	89.6	87.6	84.8	79.6

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4223 10.2049

STAND XARF RIG ID VT=202 TEST DATE 05/05/76 SCALE RATIO 22.5/1 RUN NUMBER 3367 CONDITION 3367

					PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	455.6	283.5	KG/S	206.7	128.6
PRES	25.00IN	0.85BAR	P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	14039.5	13232.9	N	62450.4	58862.7
WIND D			TEMP	(R)	724.0	1214.0	(K)	402.2	674.4	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.062	0.038	KG/M3	0.995	0.616	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	992.2	1503.0	M/S	302.4	458.1	W (MODEL)	LB/S	0.9	0.6	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	86.2	87.2	86.8	88.2	89.2	90.4	91.8	93.5	94.8	135.4
.063	87.5	88.0	88.0	89.6	90.5	90.8	92.5	94.1	94.8	136.2
.080	88.3	88.6	88.7	90.4	91.4	92.4	93.7	94.9	94.7	137.0
.100	89.8	89.6	89.4	91.0	91.9	93.0	94.4	95.1	94.1	137.5
.125	89.8	90.3	90.6	91.9	92.9	94.1	95.4	95.1	93.3	138.2
.160	91.0	90.8	91.1	92.5	94.2	95.5	96.0	95.6	93.2	139.0
.200	91.8	92.1	92.1	93.9	95.2	96.5	97.0	95.7	93.0	139.9
.250	91.8	91.9	92.9	94.4	95.8	96.9	97.0	95.6	92.9	140.2
.315	92.5	92.3	93.2	94.9	96.5	98.1	97.2	95.8	93.2	140.9
.400	92.7	92.9	93.3	95.1	96.7	97.8	96.9	95.7	93.2	140.8
.500	92.2	92.6	93.4	95.3	96.9	97.5	96.6	95.4	93.0	140.7
.630	92.5	92.9	93.4	95.5	97.2	97.7	96.5	95.0	92.6	140.8
.800	91.8	92.0	92.8	94.7	96.3	96.7	95.5	93.8	91.1	139.9
1.00	91.0	91.5	92.4	94.2	96.2	95.7	94.5	93.2	90.7	139.3
1.25	90.0	90.6	91.5	93.1	94.8	94.7	93.5	91.6	88.7	138.2
1.60	89.8	90.1	90.9	92.5	93.9	93.6	92.0	90.1	87.4	137.2
2.00	89.2	89.2	90.1	92.1	92.5	92.3	90.7	88.7	85.8	136.2
2.50	88.3	88.8	89.6	90.9	91.9	91.3	89.4	87.4	84.5	135.4
3.15	88.1	88.3	89.5	90.7	91.2	90.7	88.8	86.7	83.8	134.9
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 151.5

OSPL	103.4	103.6	104.2	105.9	107.3	108.0	107.6	106.8	105.1
PNL	111.8	112.1	112.9	114.4	115.4	115.5	114.4	113.0	110.5

200. SIDELINE

PNL	108.6	109.2	110.2	111.6	112.2	111.5	109.3	106.1	101.3

370. SIDELINE

PNL	102.6	103.3	104.3	105.6	106.2	105.5	103.2	100.1	95.3

800. SIDELINE

PNL	94.3	95.2	96.1	97.5	98.2	97.4	95.3	92.3	87.2

2128. SIDELINE

PNL	82.7	83.5	84.3	85.9	86.8	86.5	84.3	81.0	75.4

20033F DBTF JET NOISE TEST COANNULAR NOZ AR=0.75 CONF 2 TAPE 4224 10.2049

STAND XARF RIG ID VT=425 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3372 CONDITION 3372

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	435.4	359.4	KG/S	197.5	163.0
PRES	25.00IN	0.85BAR	P.R.		1.53	2.49		1.53	2.49	THRUST,IDL	LBI	3151.8	20784.9	N	58502.0	92455.2
WIND D			TEMP	(R)	688.2	1245.0	(K)	382.3	691.7	THRUST,MEA	LB		0.0	N		0.0
WIND V	0MPH	0.0M/S	RHO	LB/FT3	0.065	0.041	KG/M3	1.048	0.654	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H	70.0%		VEL	FPS	972.7	1862.0	M/S	296.5	567.5	W (MODEL)	LB/S	0.9	0.7	KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	86.9	85.5	85.5	86.4	86.9	87.3	92.3	94.1	92.6	134.5
.063	89.6	88.3	87.8	88.1	88.1	88.3	92.4	94.1	93.0	135.4
.080	90.4	89.9	89.3	89.9	90.0	90.6	93.5	94.7	93.8	136.7
.100	92.4	91.0	90.2	90.5	90.8	92.0	94.2	95.0	94.3	137.5
.125	92.9	92.4	91.6	92.1	92.2	93.5	95.5	95.7	94.2	138.7
.160	93.6	93.2	92.6	93.4	94.6	96.2	97.3	96.8	95.0	140.2
.200	95.0	94.9	94.2	95.4	96.4	98.2	98.8	97.7	95.5	141.8
.250	96.0	95.7	95.4	96.5	97.6	99.3	99.5	98.2	95.9	142.7
.315	97.3	95.8	96.3	97.5	98.9	100.9	100.0	98.6	97.0	143.8
.400	97.6	96.9	96.8	98.4	99.7	101.1	100.2	99.0	97.5	144.3
.500	97.7	97.2	97.2	99.1	100.2	100.9	100.0	98.9	97.8	144.4
.630	98.6	98.0	98.1	99.6	100.7	101.2	100.4	99.4	98.2	144.9
.800	99.3	98.1	97.9	99.3	100.6	100.7	99.4	98.5	97.8	144.6
1.00	102.3	99.6	98.3	99.9	101.1	100.6	99.0	98.2	98.0	145.2
1.25	105.0	101.9	99.5	99.6	100.3	100.1	98.6	97.5	96.9	145.8
1.60	105.3	103.2	101.2	100.3	100.2	99.7	98.1	96.8	96.0	146.3
2.00	104.3	103.0	102.0	101.6	100.4	99.5	97.7	96.5	95.7	146.4
2.50	104.3	103.1	102.0	101.6	100.9	99.7	97.5	96.2	95.7	146.5
3.15	105.2	103.8	102.7	102.0	101.4	100.3	98.2	96.8	96.4	147.2
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
										= 156.6
OSPL	113.4	111.8	110.7	111.1	111.5	111.7	110.9	110.1	108.9	
PNL	124.9	123.5	122.5	122.3	122.2	121.8	120.5	119.4	118.6	
	200. SIDELINE									
PNL	121.6	120.6	119.8	119.5	119.0	117.8	115.3	112.5	109.2	
	370. SIDELINE									
PNL	115.5	114.6	113.7	113.5	112.9	111.7	109.1	106.2	102.7	
	800. SIDELINE									
PNL	106.9	106.1	105.3	105.1	104.5	103.2	100.5	97.3	93.1	
	2128. SIDELINE									
PNL	93.6	92.8	92.1	92.1	91.4	90.2	88.0	84.7	80.0	

STAND XARF RIG ID VT=340 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3373 CONDITION 3373

					PRIMARY	FAN		PRIMARY	FAN				PRIMARY	FAN		PRIMARY	FAN
TEMP	77.0(F)	25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S		440.4	369.6	KG/S	199.8	167.6
PRES	25.00IN	0.85BAR	P.R.		1.52	2.50		1.52	2.50	THRUST,IDL	LB	13255.5	21611.4		N	58963.2	96131.7
WIND D			TEMP	(R)	696.0	1270.0	(K)	386.7	705.6	THRUST,MEA	LB		0.0		N		0.0
WIND V	CMPH	0.0M/S	RHO	LB/FT3	0.065	0.040	KG/M3	1.034	0.641	AREA (MOD)	SQFT	0.02	0.01		SQM	0.001	0.001
REL H	70.0%		VEL	FPS	969.1	1883.0	M/S	295.4	573.9	W (MODEL)	LB/S	0.9	0.7		KG/S	0.4	0.3

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	88.7	88.0	87.4	88.8	89.4	90.9	92.7	94.3	95.5	136.1
.063	90.4	90.2	89.4	90.4	90.7	91.6	93.9	95.5	95.9	137.4
.080	91.8	91.6	91.1	92.1	92.3	93.7	95.4	96.7	96.7	138.9
.100	93.5	92.6	91.7	92.9	93.5	94.7	96.4	97.4	96.9	139.7
.125	93.8	93.7	93.2	94.2	94.7	96.3	97.8	98.0	96.6	140.8
.160	94.6	94.6	94.2	95.5	96.6	98.9	99.5	99.2	97.6	142.4
.200	96.0	96.0	95.7	97.3	98.3	100.6	101.0	100.2	98.1	143.8
.250	96.6	96.6	96.7	98.3	99.3	101.7	101.6	100.4	98.4	144.6
.315	97.8	96.8	97.3	99.2	100.8	103.0	102.3	101.2	99.5	145.6
.400	98.0	97.8	97.8	99.8	101.3	103.1	102.5	101.7	100.1	146.0
.500	98.0	98.0	98.2	100.4	101.8	103.2	102.4	101.5	100.2	146.2
.630	98.7	98.5	98.7	101.0	102.4	103.4	102.9	102.1	100.6	146.6
.800	99.0	98.4	98.4	100.8	102.3	102.9	102.0	101.3	100.3	146.3
1.00	101.8	99.8	98.7	101.1	102.7	102.6	101.6	101.5	100.9	146.6
1.25	104.8	102.0	99.6	100.6	101.6	102.1	100.8	100.2	99.7	146.8
1.60	105.0	103.6	101.3	100.9	101.5	101.3	100.0	99.3	98.8	147.1
2.00	103.9	103.1	102.0	102.1	101.2	101.0	99.4	98.4	97.6	146.9
2.50	103.7	102.9	101.9	102.1	101.7	100.9	98.9	97.8	97.0	146.9
3.15	104.8	103.5	102.3	102.3	102.1	101.2	99.1	97.8	97.1	147.3
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OAPWL = 157.9

OSPL	113.2	112.1	111.1	112.1	112.9	113.7	113.1	112.5	111.4
PNL	124.6	123.5	122.5	123.1	123.4	123.4	122.1	121.2	120.3
			200. SIDELINE						
PNL	121.4	120.7	119.8	120.3	120.1	119.3	116.9	114.3	110.9
			370. SIDELINE						
PNL	115.3	114.7	113.8	114.2	114.0	113.3	110.8	108.1	104.4
			800. SIDELINE						
PNL	106.7	106.2	105.4	105.9	105.7	104.8	102.2	99.3	95.3
			2128. SIDELINE						
PNL	93.5	93.1	92.4	93.1	92.8	92.3	90.2	87.3	82.6

STAND XARF RIG ID VT=339 TEST DATE 05/07/76 SCALE RATIO 22.5/1 RUN NUMBER 3374 CONDITION 3374

			PRIMARY	FAN		PRIMARY	FAN			PRIMARY	FAN		PRIMARY	FAN
TEMP 77.0(F) 25.0(C)	AREA	SQFT	7.75	5.87	SQM	0.720	0.546	MASS FLOW	LB/S	450.6	253.1	KG/S	204.4	114.8
PRES 25.00IN 0.858AR	P.R.		1.52	1.80		1.52	1.80	THRUST,IDL	LB	13535.1	11901.6	N	60206.7	52940.6
WIND D	TEMP	(R)	688.7	1227.3	(K)	382.6	681.8	THRUST,MEA	LB		0.0	N		0.0
WIND V OMPH 0.0M/S	RHO	LB/FT3	0.065	0.038	KG/M3	1.046	0.609	AREA (MOD)	SQFT	0.02	0.01	SQM	0.001	0.001
REL H 70.0%	VEL	FPS	967.3	1514.0	M/S	294.8	461.5	W (MODEL)	LB/S	0.9	0.5	KG/S	0.4	0.2

FAA DAY 1/3 OCTAVE BAND ENGINE JET NOISE DATA 150.0FT RADIUS (SCALED ENGINE)

BAND CENTER FREQ (KHZ)	MICROPHONE ANGLES IN DEGREES 70	80	90	100	110	120	130	140	150	POWER 1E-12W
.050	83.4	83.5	81.8	83.8	84.2	85.4	87.0	88.3	89.1	130.6
.063	85.5	85.3	83.8	85.3	85.6	86.2	88.0	89.2	89.2	131.7
.080	86.9	86.5	85.6	87.0	87.1	87.8	89.2	90.1	89.8	133.0
.100	88.3	87.5	86.6	87.8	88.1	89.0	90.0	90.5	89.7	133.9
.125	88.6	88.5	87.9	89.0	89.0	89.8	90.9	90.8	89.2	134.7
.160	89.4	89.2	88.9	90.0	90.6	91.7	92.0	91.4	89.4	135.8
.200	91.3	91.2	90.5	91.7	92.2	93.3	93.3	92.0	89.5	137.3
.250	91.6	91.5	91.4	92.5	93.0	94.1	93.5	91.9	89.5	137.8
.315	92.7	91.7	91.9	93.2	94.1	95.1	93.7	92.1	90.2	138.5
.400	92.6	92.6	92.1	93.4	94.5	95.1	93.4	91.9	90.2	138.7
.500	92.7	92.5	92.6	94.0	94.7	95.1	93.2	91.5	90.0	138.8
.630	93.3	93.0	92.9	94.6	95.3	95.4	93.4	91.6	89.8	139.2
.800	92.7	92.6	92.3	94.0	94.8	94.7	92.4	90.6	88.9	138.6
1.00	92.2	92.3	92.1	93.8	95.0	94.2	92.1	90.5	88.9	138.3
1.25	91.8	91.8	91.9	93.1	93.8	93.3	91.2	89.4	87.7	137.6
1.60	91.7	91.6	91.6	92.6	93.0	92.6	90.3	88.5	86.9	137.0
2.00	91.5	91.3	91.5	92.7	92.3	91.8	89.9	88.0	86.4	136.7
2.50	91.2	91.6	91.3	92.1	92.0	91.5	89.1	87.6	86.5	136.4
3.15	92.4	91.8	92.0	92.2	92.0	91.5	89.0	87.8	87.7	136.7
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DAPWL = 149.7

OSPL	103.9	103.7	103.6	104.8	105.4	105.6	104.4	103.2	101.8
PNL	114.1	113.7	113.7	114.5	114.7	114.5	112.7	111.5	110.6
			200. SIDELINE						
PNL	110.8	110.9	111.0	111.7	111.4	110.5	107.5	104.6	101.1
			370. SIDELINE						
PNL	104.8	104.9	105.0	105.7	105.4	104.5	101.4	98.3	94.5
			800. SIDELINE						
PNL	96.4	96.6	96.7	97.4	97.1	96.0	92.9	89.5	85.0
			2128. SIDELINE						
PNL	83.4	84.0	84.0	85.0	84.7	84.1	81.1	77.5	72.5

APPENDIX I

ACOUSTIC DATA PROCESSING METHODS

Contained in this Appendix is a discussion of the data processing methods used to obtain the full size engine acoustic results The tests were conducted in the anechoic chamber lined with 1 ft acoustic wedges which had experimentally been determined to produce free-field conditions for broadband noise at frequencies above 250 Hz

Nine laboratory calibrated Bruell and Kjaer 0.25 in (No 4135) microphones were positioned on a polar array at a radius of 10 ft at measuring angles from 70° to 150° (at 10° increments) relative to the upstream jet axis The signals from each microphone were recorded by a Honeywell 96 wide band recorder operating at a tape speed at 30 in/sec. The frequency response of the recording system in this operating mode was essentially flat from 0 to 80,000 Hz.

The measuring systems, consisting of microphones, cathode followers, cables, line drives and tape recorder, were calibrated in the following ways to establish system accuracy The microphones were laboratory calibrated through an electrostatic procedure traceable to the National Bureau of Standards An accurate (±0 025 dB) white noise electrical signal generator was used to establish the frequency response of each signal transmission system from the microphone output to the tape recorder input Tape recorder record/reproduce frequency response was checked by use of sine wave signals inserted at the recorder input on each data tape Overall system pressure level response was established by applying an accurate sound pressure level via a piston phone at the input of each microphone system at the beginning and end of each day of testing.

One-third octave band sound pressure level spectra over a frequency range from 100 to 80,000 Hz were produced from the tape recorded signals using a General Radio No. 1921 Analyzer. A digital computer was used to convert these spectra to standard FAA day one-third octave band sound pressure levels at a 150 ft radius to represent a full scale engine approximately 22X model size by applying the following scaling and extrapolation procedures.

- The one-third octave band sound pressure levels obtained by spectral analysis of the model data were corrected for atmospheric absorption as defined by the formulae in Reference 1 to obtain model data for a theoretical day (i e , no atmospheric absorption) A portion of that document is attached as Appendix II to this volume The values of atmospheric absorption obtained by using the formulae of Reference 1 have been satisfactorily verified by experiment only for frequencies of 10,000 Hz and below However, for lack of an alternative procedure, recent practice has been to use the SAE formulae to compute atmospheric absorption coefficients to the higher frequency ranges, as in Reference 2 Thus the SAE method was used in this program to approximate the effects of atmospheric absorption up to 80,000 Hz

- The noise data were then scaled to represent the noise of a full size engine having linear dimensions 22 5 times the model size Thus, the measured SPL levels were increased by 20 log (scale ratio) or 20 log 22 5 = 27 dB, and measured frequencies were reduced by the scale ratio, i e , by a factor of 22.5. The full scale engine SPL levels were extrapolated to 150 ft radius for a standard FAA day by applying the spherical divergence law, $\Delta dB = 20 \log (r_2/r_1) = 20 \log (150/10)$, and the atmospheric attenuation corrections defined in Reference 1 Overall sound pressure levels (OASPL) were determined by integrating the SPL values over the frequency range of the scaled data (50 to 3150 Hz)

- Perceived noise levels (PNLS) were computed according to the procedure defined in SAE ARP 865. The PNLs were based on the one-third octave band SPL spectra extrapolated to a sideline distance of 2128 ft The spectra included the air attenuation corrections described in Reference 1

- Sound power level spectra and overall sound power level were determined by spatial integration of the one-third octave band SPL spectra and the OASPL over the nine microphone angles assuming symmetry about the jet axis

REFERENCES

1 Proposed Reissue of SAE Aerospace Recommended Practice (ARP-866), "Standard Values of Atmospheric Absorption as a Function of Temperature and Humidity," revised October 1973

2 J Atvars, G C Paynter, D Q Qalker and C F Wintermeyer, "Development of Acoustically Lined Ejector Technology for Multitube Jet Noise Suppressor Nozzles by Model and Engine Tests Over a Wide Range of Jet Pressure Ratios and Temperatures," NASA CR-2382, April, 1974

TABULATION OF TEMPERATURE AND RELATIVE HUMIDITY

CONFIGURATION 1 CONVERGENT NOZZLES

Run	Temp (°F)	RH (%)	Run	Temp (°F)	RH (%)
3603	89	10	3644	55	71
3604	74	10	3645	56	72
3605	58	12	3646	74	59
3606	57	15	3647	73	50
3607	58	17	3648	59	52
3608	99	15	3649	55	59
3609	89	14	3650	55	66
3610	62	15	3651	53	68
3611	57	17	3652	62	64
3612	51	40	3656	50	76
3613	51	58	3657	49	78
3614	51	64	3658	49	80
3615	50	68	3659	49	80
3616	50	69	3660	49	81
3617	50	70	3661	48	81
3618	50	71			
3619	50	71			
3620	66	70			
3621	70	70			
3622	117	70			
3623	60	3			
3624	75	3			
3625	136	1			
3626	60	6			
3627	69	8			
3628	124	7			
3629	61	8			
3630	79	10			
3631	106	9			
3632	60	12			
3633	60	14			
3634	60	14			
3635	78	37			
3636	65	39			
3637	58	48			
3638	56	64			
3639	58	66			
3640	77	51			
3641	76	40			
3642	60	44			
3643	55	60			

TABULATION OF TEMPERATURE AND RELATIVE HUMIDITY

CONFIGURATION 2 0.75 AR COANNULAR NOZZLE

Run	Temp (°F)	RH (%)	Run	Temp (°F)	RH (%)
3310	56	22	3367	91	55
3311	50	25	3368	66	68
3313	61	22	3369	67	68
3315	53	24	3370	90	53
3316	52	25	3371	63	64
3317	53	26	3372	63	68
3318	76	25	3373	63	74
3319	79	24	3374	63	71
3320	59	24	3375	63	72
3321	53	25	3376	63	72
3322	52	26	3377	63	73
3323	53	27	3378	62	74
3324	70	26	3379	61	74
3325	46	33	3380	120	16
3326	45	35	3381	72	18
3327	46	38	3382	67	23
3328	47	41	3383	108	22
3329	46	44	3384	102	19
3330	44	56	3385	69	23
3340	104	13	3386	66	38
3341	80	12	3388	73	47
3342	67	16			
3343	64	23			
3344	66	34			
3345	100	30			
3346	100	21			
3347	74	21			
3348	60	68			
3349	80	53			
3350	84	38			
3351	92	21			
3352	74	21			
3353	66	24			
3358	118	26			
3359	79	26			
3361	69	37			
3362	67	56			
3363	72	57			
3364	112	35			
3365	106	27			
3366	69	58			

TABULATION OF TEMPERATURE AND RELATIVE HUMIDITY

CONFIGURATION 3 0 75 AR COANNULAR NOZZLE WITH EJECTOR

Run	Temp (°F)	RH (%)	Run	Temp (°F)	RH (%)
3501	85	27	3541	75	34
3502	69	29	3542	69	49
3503	64	32	3543	67	66
3504	63	37	3544	68	70
3505	65	41	3545	86	56
3506	82	37	3646	65	69
3507	81	32	3547	63	80
3508	67	34	3548	62	82
3509	63	39	3649	63	84
3510	62	42	3550	63	86
3511	64	45	3551	63	86
3513	79	31	3552	63	87
3514	77	29	3553	63	88
3515	67	30	3554	63	88
3516	64	33	3555	63	88
3517	62	59			
3518	62	59			
3519	61	60			
3520	61	60			
3521	61	61			
3522	71	3			
3523	75	4			
3524	106	4			
3525	108	4			
3526	76	6			
3527	69	8			
3528	68	11			
3529	71	14			
3530	91	15			
3531	88	16			
3532	71	18			
3533	66	23			
3534	114	31			
3535	79	31			
3536	68	51			
3537	67	68			
3538	70	67			
3539	108	37			
3540	97	30			

TABULATION OF TEMPERATURE AND RELATIVE HUMIDITY

CONFIGURATION 4 1 2 AR COANNULAR NOZZLE

Run	Temp (°F)	RH (%)	Run	Temp (°F)	RH (%)
3401	124	10	3443	51	51
3402	77	11	3444	70	46
3403	69	13	3445	66	37
3404	65	15	3446	54	37
3406	71	22	3447	49	41
3407	124	14	3448	49	45
3408	121	10	3449	48	49
3409	76	10	3450	59	48
3410	65	15	3451	46	45
3411	64	18	3452	45	61
3412	65	22	3453	44	57
3413	85	23	3454	44	64
3414	61	86	3455	44	68
3415	61	87			
3416	61	87			
3417	61	87			
3418	60	87			
3419	60	88			
3420	59	87			
3421	59	87			
3422	60	88			
3423	60	87			
3424	59	26			
3425	63	27			
3426	114	20			
3427	117	10			
3428	71	10			
3429	59	11			
3430	57	12			
3431	59	13			
3432	99	12			
3433	83	11			
3434	62	12			
3436	55	14			
3436	48	52			
3437	52	57			
3438	72	48			
3439	72	41			
3440	54	41			
3441	50	44			
3442	50	49			

APPENDIX II

ATMOSPHERIC ATTENUATION CORRECTIONS

This Appendix contains extracts of the "Proposed Reissue of SAE Aerospace Recommended Practice, ARP 866, Revised October 1973 " ARP 866 was used to correct noise data for atmospheric attenuation

CONTENTS

CONTENTS (Continued)

ILLUSTRATIONS

STANDARD VALUES OF ATMOSPHERIC ABSORPTION AS A FUNCTION OF TEMPERATURE AND HUMIDITY

1. INTRODUCTION

There are a number of factors which influence the propagation of noise from an aircraft to a point on the ground. The purpose of this ARP, however, is to consider only the classical and molecular absorption of sound energy by the atmosphere. Spherical divergence, scattering, refraction, and other effects should be treated separately.

This ARP describes a method by which values can be obtained for the absorption of sound in air over a wide range of temperature and humidity conditions. Although it was developed primarily for use in evaluating aircraft flyover noise measurements, the information should be applicable to other noise problems as well.

The method presented is based on the theories of Kneser (References 1 and 2) and Evans and Bazley (Reference 3), the laboratory results of Harris (References 4-7), and field data from various sources (References 8-10). Although the final information was used from these sources only, the works of many other individuals and groups were used to arrive at a selection of the present method.

The experimental results of Harris (Reference 4), were obtained for a single temperature of 20°C (68°F). Essentially, these data were used and curves based on Kneser's theory were modified to fit them. The modified curves then served as a basis for obtaining values over a wide range of temperatures, humidities and frequencies. Once these curves were established, they were compared with field results to select a method for predicting absorption values for bands of noise by using the absorption value for a single frequency.

Since ARP 866 was first published in 1964, considerable data on the atmospheric absorption of sound have been collected, e.g., References 11, 12 and 13. Most of these studies have indicated that, on the average, the atmospheric absorption coefficients determined by the method described herein are quite close to the measured values over a reasonably wide range of air temperatures and relative humidities.

The purpose of this reissue of ARP 866 is to describe a mathematical procedure for determining atmospheric absorption coefficients that is suitable for use with machine computation techniques. Use of the mathematical representations of the various curves involved in the calculation routine should improve the precision and repeatability of determining atmospheric absorption coefficients. The calculation procedures is used to determine atmospheric absorption coefficients for 1/1- and 1/3-octave bands of noise, for air temperatures ranging from 1 to 100°F and relative humidities from 1 to 100 percent. The calculated coefficients are presented in tabular and graphical forms. The tabulated coefficients provide a convenient method of reading all 1/1- or 1/3-octave band coefficients on one page for a variety of temperatures for a given relative humidity. The graphical forms use expanded scales for improved legibility and for easy comprehension of the dependence of the absorption coefficients on frequency, temperature, and humidity

2. SYMBOLS

freq	Frequency, Hz
h_a	Absolute humidity, gm/m^3
h_{molmax}	Absolute humidity for maximum molecular absorption, gm/m^3
$h_{normalized}$	Normalized absolute humidity, ratio of h_a to h_{molmax}
RH	Relative humidity, percent
temp	Air temperature, degrees Fahrenheit or Celsius
α_{class}	Classical absorption coefficient, dB/1000 ft or dB/100 meters
α_{mol}	Molecular absorption coefficient, dB/1000 ft or dB/100 meters
α_{molmax}	Maximum molecular absorption coefficient, dB/1000 ft or dB/100 meters
$\alpha_{normalized}$	Normalized molecular absorption coefficient, ratio of α_{mol} to α_{molmax}
α	Atmospheric absorption coefficient, sum of α_{class} and α_{mol}, dB/1000 ft or dB/100 meters.

3. BACKGROUND

According to the theory presented in Reference 1, there are two principal mechanisms by which sound energy is absorbed when propagating through the atmosphere. These mechanisms are termed classical absorption which is a function of frequency and temperature, and molecular absorption which is a function of frequency, temperature and humidity. Both mechanisms can be expressed as a loss, in decibels, per unit distance that a sound wave has travelled.

3.1 CLASSICAL ABSORPTION

Classical absorption results from energy dissipation through the effects of heat conduction and viscosity. It is relatively unimportant except at higher frequencies and varies only slightly with temperature, however, it has to be considered in an analysis since at 10,000 Hz the classical absorption amounts to a little over 4 dB/1000 feet. Values of classical absorption from References 1 and 2 are given in Figure 1.

Molecular absorption results principally from a rotational and vibrational relaxation process of oxygen and nitrogen molecules. It varies over a wide range of values and may be as high as 100 dB/1000 feet at 10,000 Hz over a wide range of temperatures.

Both theoretical and experimental results indicate that for a given frequency there is a value of absolute humidity at which molecular absorption has a maximum value. Relative humidity is a more familiar term than absolute humidity, because it has significance to weather and comfort. It is the ratio, in percent, of the amount of water in a parcel of air at a given temperature divided by the amount of water that parcel of air would have at the condensation point. However, molecular absorption is concerned with the actual amount of water in the air regardless of how much there could be. A nomogram from Reference 2 relating absolute humidity, relative humidity, and air temperature is given in Figure 2.

Reference 1 presented an empirical formula relating the absolute humidity at which maximum molecular absorption occurs to the frequency of a sound

wave. This relationship is shown in Figure 3. Reference 1 also provided values of maximum molecular absorption as a function of frequency and temperature, these values are given in Figure 4.

Given the information in Figures 2 through 4, the remaining problem would be to determine what fraction of the maximum molecular absorption occurs at absolute humidities other than that at which the maximum absorption occurs. Figure 5 indicates the relationship, from Reference 1, between normalized molecular absorption and normalized absolute humidity that can be used to determine the molecular absorption coefficient for a given frequency, air temperature, and absolute humidity.

4. MODIFICATIONS TO LABORATORY RESULTS

4.1 TEMPERATURE AND HUMIDITY EFFECTS

Most of the experimental test results reported in the literature show trends which agree with the theoretical predictions given in References 1 and 2. For specific conditions, however, many of the experimental results do not agree with the theoretical values nor with one another. The results from laboratory experiments were usually obtained only over a limited range of temperature and humidity. In order to obtain absorption coefficients over a wide range of temperature and humidity, it has been general practice to alter the theoretical curves to fit the experimental results. The procedure used here was to make use of the precise and systematic laboratory data from Reference 4 to modify the theoretical curves from References 1 and 2.

Because the determination of atmospheric absorption depends on several curves, one must be arbitrary in deciding which of these curves should be altered to make the theoretical curves agree with experimental data. The approach taken here was to accept the classical absorption curve (Figure 1) and the curve of absolute humidity at which maximum absorption occurs as a function of frequency (Figure 3). The curve presenting maximum molecular absorption values for different frequencies and temperatures (Figure 4) and the theoretical curve relating normalized molecular absorption to normalized absolute humidity (Figure 5) were then adjusted to fit the data of Reference 4.

The total absorption values (i.e., a combination of molecular and classical) in Figure 3 of Reference 4 were used as presented. However, in Figure 4 of Reference 4, the plot of normalized absorption as a function of normalized humidity includes the effects of classical absorption. Classical absorption was subtracted from the total absorption values and a modified curve relating normalized molecular absorption as a function of normalized humidity was obtained. This curve is plotted in Figure 6 along with the curve from Figure 4 of Reference 4, and Kneser's theoretical curve. The modified Harris curve was selected for the currently proposed method.

In Figure 5 of Reference 4 a comparison was made between experimental values and Kneser's theoretical values for maximum absorption coefficient as a function of frequency. However, Harris' values once again included classical absorption and the theoretical values do not. Comparing only the molecular absorption of Harris' total absorption values showed them to be lower than theory would predict. Harris' data were approximately parallel to the theoretical curve of maximum molecular absorption as a function of frequency (Figure 4).

Theoretical values of maximum molecular absorption for three frequencies were plotted as functions of temperature in Figure 7. Data from Reference 4 obtained at 20°C (68°F) were plotted and modified curves parallel to the theoretical curves were drawn through them. The modified curves in Figure 7 were used to obtain the complete set of modified data presented in Figure 8.*

The curves in Figures 1, 3 and 8, and the curve in Figure 9, which is taken from the modified curve in Figure 6, then supply a complete set of curves for use in determining total atmospheric absorption coefficients for a wide range of frequencies, temperatures and humidities.

4.2 FREQUENCY EFFECTS

The theoretical and the modified theoretical curves described above and presented in Figures 1, 3, 8 and 9 are strictly applicable to pure-tone, single-frequency sounds. For wide-band noise, with or without strong discrete-frequency components, it is necessary to consider frequency bands that may contain several frequency components. The most commonly used frequency band has a constant percentage bandwidth, either that of a full or 1/1-octave band filter or that of a 1/3-octave band filter. In order to develop a procedure for determining atmospheric absorption coefficients for bands of

*Note that Figures 7 and 8 differ slightly from the corresponding Figures 6 and 7 in the August 1964 version of ARP 866. The differences are due to inconsistencies that occurred in the plotting of the previous curves for air temperatures near 0°F. These inconsistencies have been removed by the use of Equation (4) (Paragraph 5.4) to determine α_{molmax}.

noise it was necessary to compare absorption coefficients from field measurements to those determined from the curves of Figures 1, 3, 8 and 9.

Although laboratory data are obtained under comparatively carefully controlled conditions, field values of atmospheric absorption coefficients are obtained under a fairly wide range of conditions which may not be carefully measured. These data are usually obtained from a series of tests in which the sound pressure levels are measured on the ground as a particular type of airplane flies over the measurement point at heights ranging from a few hundred to a few thousand feet. The measured sound pressure levels (in 1/1- or 1/3-octave bands) are plotted as a function of height overhead, inverse-square spherical-divergence losses are removed, and the excess attenuation is attributed to atmospheric absorption. It is usually assumed that temperatures and relative humidities measured near the surface of the earth are representative of conditions to a height greater than the maximum height during the flyover and that the sound propagation is in all cases vertical.

Three fairly complete sets of atmospheric absorption values obtained from field tests of aircraft flyover noise levels are described in References 8-10. These three sets of data, taken by completely independent groups and under a variety of atmospheric conditions, indicated that by making certain general assumptions fairly reliable predictions of absorption values could be made. It was assumed that the absolute humidity was constant over the height range and that the air temperature decreased with height at the lapse rate given by an International Civil Aviation Organization standard atmosphere, Reference 14. It was also assumed that, because the spectrum of the flyover noise slopes down rapidly with frequency (especially for long distance measurements), the sound pressure levels in the high-frequency bands would be controlled by energy in the lower frequency range of the band.

Analyses of the flyover noise data from References 8-10 indicated that the following general rules for the frequency to use in the analyses gave the best agreement between absorption coefficients determined from the field data and values determined from the curves of Figures 1, 3, 8 and 9.

In Figures 1, 3 and 8, the frequencies to use are:

1. For 1/1-octave bands:

   a. Geometric mean frequency for bands centered:

      at 53, 106, 212, 425, 850, 1700, and 3400 Hz (commercial), or

      at 63, 125, 250, 500, 1000, 2000, and 4000 Hz (preferred).

   b. 1.05 times the lower limiting frequency for bands centered:

      at 6800 Hz (commercial) - i.e., 1.05 x 4800 = 5040 Hz, or

      at 8000 Hz (preferred) - i.e., 1.05 x 5600 = 5880 Hz.

2. For 1/3-octave bands:

   a. Geometric mean frequency for bands with center frequencies at and below 4000 Hz.

   b. The lower limiting frequencies for bands with center frequencies above 4000 Hz, i.e., 4500, 5600, 7100, and 9000 Hz for the bands centered at 5000, 6300, 8000, and 10,000 Hz.

The geometric mean frequencies and the lower limiting frequencies were the standard values recommended in Reference 15 for 1/1- and 1/3-octave frequency bands.

5. PROCEDURE FOR CALCULATING ABSORPTION COEFFICIENTS

A seven-step procedure is used to determine the total atmospheric absorption coefficients as the sum of a classical absorption component and a molecular absorption component. The steps are set forth first for temperatures in degrees Fahrenheit and absorption coefficients in dB/1000 ft and then for degrees Celsius and dB/100 meters.

5.1 CLASSICAL ABSORPTION COEFFICIENT, α_{class}

Based on the data in Figure 1 as a function of frequency and temperature the classical absorption coefficients are determined from

$$\alpha_{class} = 10^{\left[2.05 \log_{10} (freq/1000) + 6.33 \times 10^{-4} \times temp - 1.45325\right]} \quad (1)$$

in dB/1000 ft for freq in Hz and temp in ^{o}F.

5.2 ABSOLUTE HUMIDITY, h_a

From Figure 2, the mathematical representation of the relationship between absolute humidity, h_a, relative humidity, RH, and air temperature, temp, is

$$h_a = 10^{\left[\log_{10} (RH) - B\right]} \quad (2)$$

in gm/m^3 for RH in percent and where B is the value of $\log_{10}$ (RH) for an absolute humidity of 1.0 gm/m^3. The quantity B is determined from the following relationship:

$$B = b_0 + b_1 \times temp + b_2 \times temp^2 + b_3 \times temp^3 \quad (2a)$$

The coefficients in Eq. (2a) were determined by a least squares curve fitting technique for a third-order polynomial (over the temperature range from 0°F to 100°F) to be

$$b_0 = 1.97274664$$

$$b_1 = -2.288074 \times 10^{-2},\ {}^{o}F^{-1}$$

$$b_2 = 9.589 \times 10^{-5},\ {}^{o}F^{-2}$$

$$b_3 = -3 \times 10^{-7},\ {}^{o}F^{-3}$$

5.3 ABSOLUTE HUMIDITY FOR MAXIMUM MOLECULAR ABSORPTION, h_{molmax}

From References 1 and 2, the absolute humidity for maximum molecular absorption as a function of frequency is

$$h_{molmax} = (freq/1010)^{1/2} \tag{3}$$

in gm/m^3 with freq in Hz.

5.4 MAXIMUM MOLECULAR ABSORPTION COEFFICIENT, α_{molmax}

From Figure 8, the relation between the maximum molecular absorption coefficient, frequency, and air temperature is determined using

$$\alpha_{molmax} = 10^{\left[\log_{10}(freq/1) + 4.6833 \times 10^{-3} \times temp - 2.4215\right]} \tag{4}$$

5.5 NORMALIZED MOLECULAR ABSORPTION COEFFICIENT, $\alpha_{normalized}$

From Figure 9, corresponding values of normalized absolute humidity (ratio of h_a to h_{molmax}) and normalized molecular absorption coefficient (ratio of α_{mol} to α_{molmax}) are as follows.

$h_{normalized}$	$\alpha_{normalized}$
0.00	0.000
0.25	0.315
0.50	0.700
0.60	0.840
0.70	0.930
0.80	0.975
0.90	0.996
1.00	1.000
1.10	0.970
1.20	0.900
1.30	0.840
1.50	0.750
1.70	0.670
2.00	0.570
2.30	0.495
2.50	0.450
2.80	0.400
3.00	0.370
3.30	0.330
3.60	0.300
4.15	0.260
4.45	0.245
4.80	0.230
5.25	0.220
5.70	0.210
6.05	0.205
6.50	0.200
7.00	0.200
10.00	0.200

For calculation purposes, these coordinate pairs may be stored in the memory of the digital computer. Values of $\alpha_{normalized}$ at intermediate values of $h_{normalized}$ can then be determined by a quadratic interpolation technique.

5.6 MOLECULAR ABSORPTION COEFFICIENT, α_{mol}

The values of the molecular absorption coefficient for given frequency, temperature and relative humidity are determined by multiplying the corresponding values of α_{molmax} (determined in step 4) and $\alpha_{normalized}$ (determined in step 5). That is,

$$\alpha_{mol} = \alpha_{molmax} \times \alpha_{normalized} \tag{5}$$

5.7 TOTAL ATMOSPHERIC ABSORPTION COEFFICIENT, α

The total atmospheric absorption coefficient for corresponding values of frequency, temperature, and relative humidity is determined by adding together the values of α_{class} from step 1 and α_{mol} from step 6. That is

$$\alpha = \alpha_{class} + \alpha_{mol} \tag{6}$$

5.8 MODIFICATIONS FOR INTERNATIONAL UNITS

For some noise propagation analyses it is more convenient to deal with air temperatures in degrees Celsius and absorption coefficients in decibels per 100 meters. Modifications to the above equations to accomplish this are described below. The frequencies to use for analyses in 1/1- and 1/3-octave bands are the same as those given in Section 4. The modifications use the following conversion factors:

$$1 \text{ meter} = 3.281 \text{ feet}$$

$$^{\circ}F = 9/5\ ^{\circ}C + 32$$

$$\text{dB/100m} = 1/10 \times 3.281 \text{ ft/m} \times \text{dB/1000 ft}$$

$$= 0.3281 \times \text{dB/1000 ft}$$

$$= (10^{-0.48399}) \text{ (dB/1000 ft)}$$

5.8.1 Classical Absorption Coefficient, α_{class}

From Equation (1),

$$\alpha_{class} = [10 \exp(-0.48399)][10 \exp(2.05 \log_{10}(\text{freq}/1000) + 6.33 \times 10^{-4} \times (9/5) \times \text{temp} + 6.33 \times 10^{-4} \times 32 - 1.45325)]$$

$$= 10^{[2.05 \log_{10}(\text{freq}/1000) + 1.1394 \times 10^{-3} \times \text{temp} - 1.916984]} \quad (7)$$

in dB/100m for frequency in Hz and temperature in ^{o}C.

5.8.2 Absolute Humidity, h_a

From Equation (2),

$$h_a = 10^{[\log_{10}(RH) - B]} \quad (8)$$

in gm/m^3 for RH in percent and temperature in ^{o}C.

From Equation (2a), the nondimensional quantity B is:

$$B = b_0 + b_1 \times \text{temp} + b_2 \times \text{temp}^2 \times b_3 \times \text{temp}^3. \quad (8a)$$

The appropriate constants can be determined from those given in Equation (2a) by substitution as follows:

$$- 2.288074 \times 10^{-2} (9/5 \text{ temp} + 32)$$

$$9.589 \times 10^{-5} (9/5 \text{ temp} + 32)^2$$

$$- 3 \times 10^{-7} (9/5 \text{ temp} + 32)^3$$

Expanding and collecting terms including the constant of 1.97274664 from Equation (2a) gives

$$b_0 = 1.328924$$

$$b_1 = -3.179768 \times 10^{-2}, \ ^{o}C^{-1}$$

$$b_2 = 2.173716 \times 10^{-4}, \ ^{o}C^{-2}$$

$$b_3 = -1.7496 \times 10^{-6}, \ ^{o}C^{-3}$$

5.8.3 Absolute Humidity for Maximum Molecular Absorption, h_{molmax}

Same as Equation (3),

$$h_{molmax} = (freq/1010)^{1/2} \tag{9}$$

in gm/m^3 with frequency in Hz.

5.8.4 Maximum Molecular Absorption Coefficient, α_{molmax}

From Equation (4),

$$\alpha_{molmax} = [10 \exp (-0.48399)] [10 \exp (\log_{10} (freq/1) + 4.6833 \times 10^{-3} \times (9/5) \times temp + 4.6833 \times 10^{-3} \times 32 - 2.4215)]$$

$$= 10^{[\log_{10} (freq/1) + 8.42994 \times 10^{-3} \times temp - 2.755624]} \tag{10}$$

in dB/100m with freq in Hz and temp in ^{o}C.

5.8.5 Normalized Molecular Absorption Coefficient, $\alpha_{normalized}$

Use the same table of coordinate pairs and quadratic interpolation technique described in Paragraph 5.5.

5.8.6 Molecular Absorption Coefficient, α_{mol}

Combine α_{molmax} from Paragraph 5.8.4 and $\alpha_{normalized}$ from Paragraph 5.8.5 as follows:

$$\therefore \alpha_{mol} = \alpha_{molmax} \times \alpha_{normalized} \quad (11)$$

in dB/100m.

5.8.7 Total Atmospheric Absorption Coefficient, α

Combine α_{class} from Equation (7) and α_{mol} from Equation (11) as follows:

$$\alpha = \alpha_{class} + \alpha_{mol} \quad (12)$$

in dB/100m for temperatures in ^{o}C, relative humidity in percent, and frequency in Hz.

7. VALUES FOR REFERENCE CONDITIONS

Two reference atmospheric conditions are commonly used for aircraft noise analyses. These are (1) an air temperature of 59°F (15°C) and a relative humidity of 70 percent, and (2) an air temperature of 77°F (25°C) and a relative humidity of 70 percent. The first condition uses the international standard day temperature at sea level from Reference 12 and a relative humidity that represents an average of the relative humidities encountered at the major airports around the world. The second condition is widely used for aircraft noise certification and for describing noise levels around airports, References 16-18.

7.1 59°F (15°C) AND 70-PERCENT RELATIVE HUMIDITY

From Tables 1 and 2 the absorption coefficients are:

Band Center Frequency, Hz	Atmospheric Absorption Coefficient			
	1/1-Octave Band		1/3-Octave Band	
	dB/1000 ft	dB/100 m	dB/1000 ft	dB/100 m
50	-	-	0.1	0.0
63	0.1	0.0	0.1	0.0
80	-	-	0.1	0.0
100	-	-	0.1	0.0
125	0.2	0.1	0.2	0.1
160	-	-	0.2	0.1
200	-	-	0.3	0.1
250	0.4	0.1	0.4	0.1
315	-	-	0.5	0.1
400	-	-	0.6	0.2
500	0.7	0.2	0.7	0.2
630	-	-	0.9	0.3
800	-	-	1.2	0.4
1,000	1.5	0.5	1.5	0.5
1,250	-	-	1.9	0.6
1,600	-	-	2.4	0.8
2,000	3.0	1.0	3.0	1.0
2,500	-	-	4.0	1.3
3,150	-	-	5.4	1.8
4,000	7.6	2.6	7.6	2.6
5,000	-	-	9.0	3.0
6,300	-	-	12.8	4.3
8,000	13.7	4.6	18.5	6.3
10,000	-	-	27.1	9.2

7.2 77°F (25°C) AND 70-PERCENT RELATIVE HUMIDITY

Again from Tables 1 and 2 the absorption coefficients are:

Band Center Frequency, Hz	Atmospheric Absorption Coefficient			
	1/1-Octave Band		1/3-Octave Band	
	dB/1000 ft	dB/100 m	dB/1000 ft	dB/100 m
50	-	-	0.1	0.0
63	0.1	0.0	0.1	0.0
80	-	-	0.1	0.0
100	-	-	0.2	0.1
125	0.2	0.1	0.2	0.1
160	-	-	0.3	0.1
200	-	-	0.3	0.1
250	0.4	0.1	0.4	0.1
315	-	-	0.6	0.2
400	-	-	0.7	0.2
500	0.9	0.3	0.9	0.3
630	-	-	1.1	0.4
800	-	-	1.4	0.5
1,000	1.8	0.6	1.8	0.6
1,250	-	-	2.2	0.7
1,600	-	-	2.9	0.9
2,000	3.6	1.2	3.6	1.2
2,500	-	-	4.6	1.5
3,150	-	-	5.9	1.9
4,000	7.6	2.5	7.6	2.5
5,000	-	-	8.6	2.8
6,300	-	-	11.1	3.7
8,000	11.7	3.9	14.9	5.0
10,000	-	-	20.4	6.9

8. LIMITATIONS

The atmospheric absorption coefficients and calculation procedures described herein should be used with caution in estimating sound propagation losses When long propagation distances are involved there may be large discrepancies between observed and estimated sound pressure levels unless careful consideration is given to the actual spectrum shape of the noise source, the true propagation path length, the actual condition of the atmosphere between the source and the receiver, and the actual level of the background noise that may be present. In the high-frequency bands, it is possible for the losses due to atmospheric absorption to reduce the level of the sound from the noise source to below the level of the background noise.

For the analyses considered herein, the atmosphere was assumed to be still and homogeneous with no thermal or humidity inversions, no wind or wind gradients, no inhomogeneities, and no turbulence. If these conditions are not approximately satisfied, the sound can be refracted and scattered with the result that measured sound pressure levels can be significantly different from the predicted sound pressure levels.

The acoustic propagation path should not be too close to horizontal. The elevation angle between the source and the receiver should not be less than approximately 25 degrees. When the elevation angle is small, there are losses in addition to the atmospheric losses described herein due to propagation over the ground and over any grassy or wooded terrain These additional losses can be substantial and are outside the scope of this document.

The analyses presented herein are for atmospheric pressures near the standard, sea-level pressure of 760 mm of mercury (29.92 in. Hg). Additional research is needed to develop an explicit method to account for atmospheric pressures much different from the standard sea level value such as might be encountered at a high-altitude airport.

As a final limitation it should be pointed out that because of the curve-fitting techniques used to obtain the mathematical representations presented herein, it is not recommended that any extrapolations be made for temperatures colder than $0^{\circ}F$ ($-18^{\circ}C$) or warmer than $100^{\circ}F$ ($38^{\circ}C$).

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11. APPENDIX B

This appendix contains a listing of the computer program statements for calculating atmospheric absorption coefficients for sound pressure levels in 1/3-octave bands. The program was written in FORTRAN for operation on an IBM model 65 System 360 digital computer. The coefficients are in dB/1000 ft with temperatures in degrees Fahrenheit and relative humidities in percent.

APPENDIX B

1/3 OCTAVES

```
C     ATMOSPHERIC ABSORPTION COEFFICIENT CALCULATION AS A FUNCTION OF
C     TEMPERATURE AND RELATIVE HUMIDITY FOR ONE-THIRD OCTAVE BANDS.
C     NOTE- TEMPERATURE IS IN DEGREES FAHRENHEIT, RELATIVE HUMIDITY IS
C           IN PERCENT, AND ABSORPTION COEFFICIENTS ARE IN DB/1000 FEET.
C     THIS PROGRAM DOES NOT USE ANY INPUT DATA.
      DIMENSION  DEGREE(100),AMOLMX(24,100),FREQ(24),ALPRAT(24,100)
      DIMENSION  IFRQ(24),ALPHA(24,100),TABLE(59),AMOLMX(24,100),
     A           HUMRAT(24,100),ALPMOL(24,100),ALPCLA(24,100)
      EQUIVALENCE (NN,TABLE(1))
      DATA TABLE /29.0,0.00,0.00,0.250,0.315,0.50,0.70,0.6,0.84,0.7,0.93
     1,0.8,0.975,0.9,0.996,1.0,1.0,1.1,0.97,1.2,0.9,1.3,0.84,1.5,0.75,
     21.7,0.67,2.0,0.57,2.3,0.495,2.5,0.45,2.8,0.4,3.0,0.37,3.30,0.33,
     33.6,0.3,4.15,0.26,4.45,0.245,4.80,0.23,5.25,0.22,5.7,0.21,6.05,
     40.205,6.5,0.2,7.0,0.2,10.0,0.2/
      DATA  IFRQ/50,63,80,100,125,160,200,250,315,400,500,630,800,1000,
     A           1250,1600,2000,2500,3150,4000,5000,6300,8000,10000/
      DATA  FREQ/50.0,63.0,80.0,100.0,125.0,160.0,200.0,250.0,315.0,
     1           400.0,500.0,630.0,800.0,1000.0,1250.0,1600.0,2000.0,
     2           2500.0,3150.0,4000.0,5000.0,6300.0,8000.0,10000.0/
      DATA DEGREE/1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1HT,1HE,1HM,1HP,
     1            1HE,1HR,1HA,1HT,1HU,1HR,1HE,1H, ,1H ,1HD,1HE,1HG,1HR,
     2            1HE,1HE,1HS,1H ,1HF,1HA,1HH,1HR,1HE,1HN,1HH,1HE,1HI,
     3            1HT,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,
     4            1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1HT,1HE,1HM,1HP,
     5            1HE,1HR,1HA,1HT,1HU,1HR,1HE,1H, ,1H ,1HD,1HE,1HG,1HR,
     6            1HE,1HE,1HS,1H ,1HF,1HA,1HH,1HR,1HE,1HN,1HH,1HE,1HI,
     7            1HT,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H ,1H /
  350 FORMAT(1H1,  30X,'ATMOSPHERIC ABSORPTION COEFFICIENTS IN DB PER 10
     A00 FT FOR ONE-THIRD OCTAVE',/29X,'BANDS OF NOISE AS A FUNCTION OF
     2TEMPERATURE FOR',I4,'  PERCENT RELATIVE HUMIDITY')
  351 FORMAT(1HO,54X'BAND CENTER FREQUENCY, HZ')
  352 FORMAT(1H ,6X,23I5,I6,/)
  353 FORMAT(1H ,A1,I5,23F5.1,F6.1)
      NN=29
      DO 300 IRH=1,100
      RELHUM=IRH
      DO 200 K=1,100
      TEMP=K
      B =1.97274664-0.02288074*TEMP+0.00009589*TEMP**2-0.0000003*TEMP**3
      ABSHUM = 10.0 **(ALOG10(RELHUM)- B)
      DO 200 J=1,24
      AMOLMX(J,K)=10.0**(ALOG10(FREQ(J))+0.00468333*TEMP-2.4215)
      HMOLMX(J,K) = (FREQ(J)/ 1010.0)**0.5
      HUMRAT(J,K) = ABSHUM/HMOLMX(J,K)
      L=3
      IF(HUMRAT(J,K).LE.TABLE(2))GO TO 130
   60 DO 90 I=4,58,2
      L=I+1
   80 IF(TABLE(I) - HUMRAT(J,K))90,130,110
   90 CONTINUE
      GO TO 130
  110 I=I-2
      IF(I.GE.4)GO TO 120
      I=I+2
  120 XA1 = HUMRAT(J,K) - TABLE(I)
      XA0 = HUMRAT(J,K) - TABLE(I-2)
      XA2 = HUMRAT(J,K) - TABLE(I+2)
      X01 = TABLE(I-2)  - TABLE(I)
      X02 = TABLE(I-2)  - TABLE(I+2)
      X12 = TABLE(I)    - TABLE(I+2)
      ALPRAT(J,K)=TABLE(I-1)*(XA1/X01)*(XA2/X02)-
     1            TABLE(I+1)*(XA0/X01)*(XA2/X12)+
     2            TABLE(I+3)*(XA0/X02)*(XA1/X12)
      GO TO 140
  130 ALPRAT(J,K) = TABLE(L)
  140 CONTINUE
      ALPMOL(J,K)= ALPRAT(J,K) * AMOLMX(J,K)
      ALPCLA(J,K)=10.0**(2.05*ALOG10(FREQ(J)/1000.0)+(0.000633*TEMP)
     1            -1.45325)
  200 ALPHA(J,K)= ALPCLA(J,K)+ALPMOL(J,K)
      WRITE(6,350) IRH
      WRITE(6,351)
      WRITE(6,352) (IFRQ(J),J=1,24)
      WRITE(6,353)((DEGREE(I),I,(ALPHA(J,I),J=1,24)),I=1,50)
      WRITE(6,350) IRH
      WRITE(6,351)
      WRITE(6,352) (IFRQ(J),J=1,24)
      WRITE(6,353)((DEGREE(I),I,(ALPHA(J,I),J=1,24)),I=51,100)
  300 CONTINUE
      STOP
      END
```

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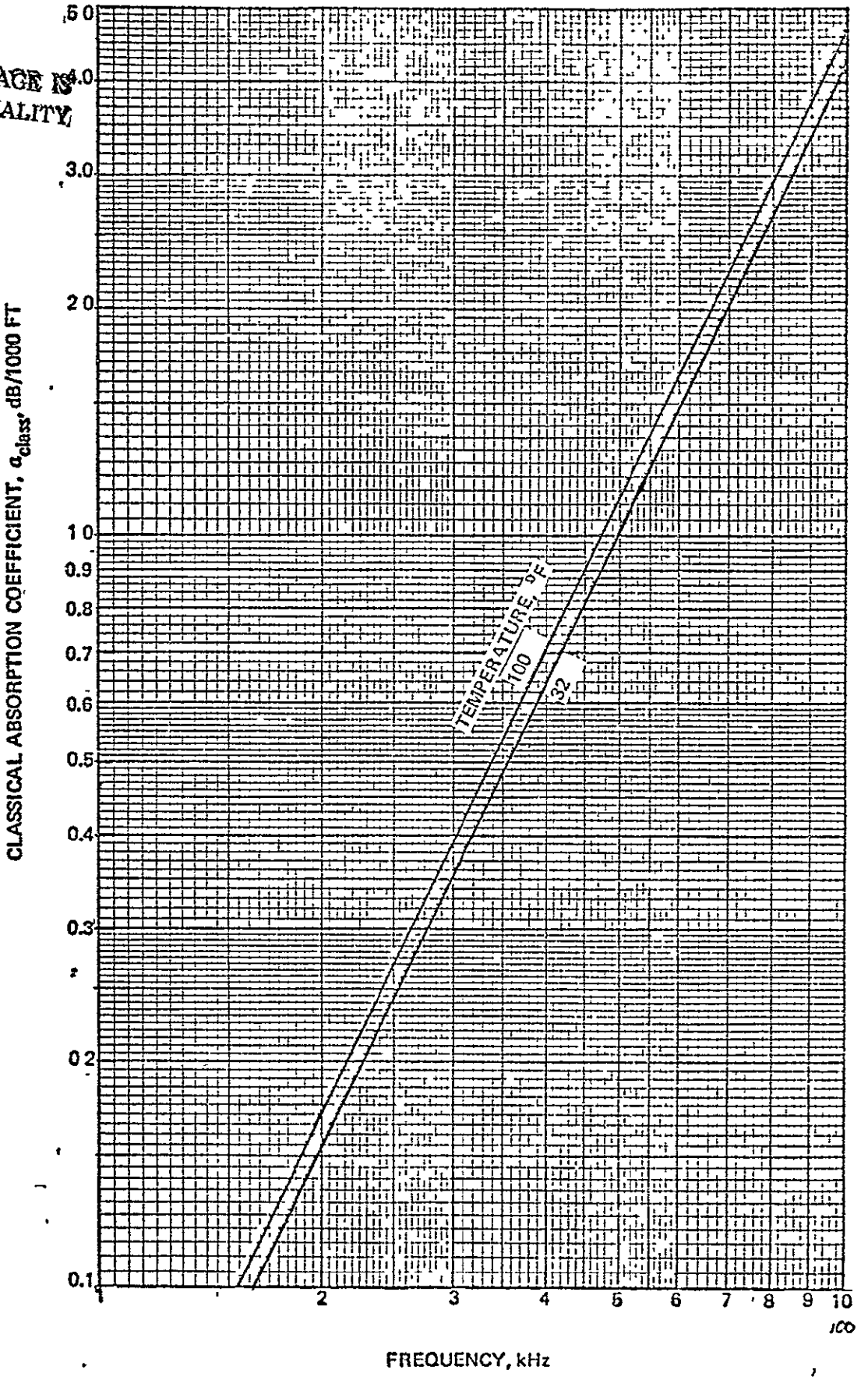

FIGURE 1. CLASSICAL ABSORPTION COEFFICIENT AS A FUNCTION OF FREQUENCY FOR VARIOUS AIR TEMPERATURES

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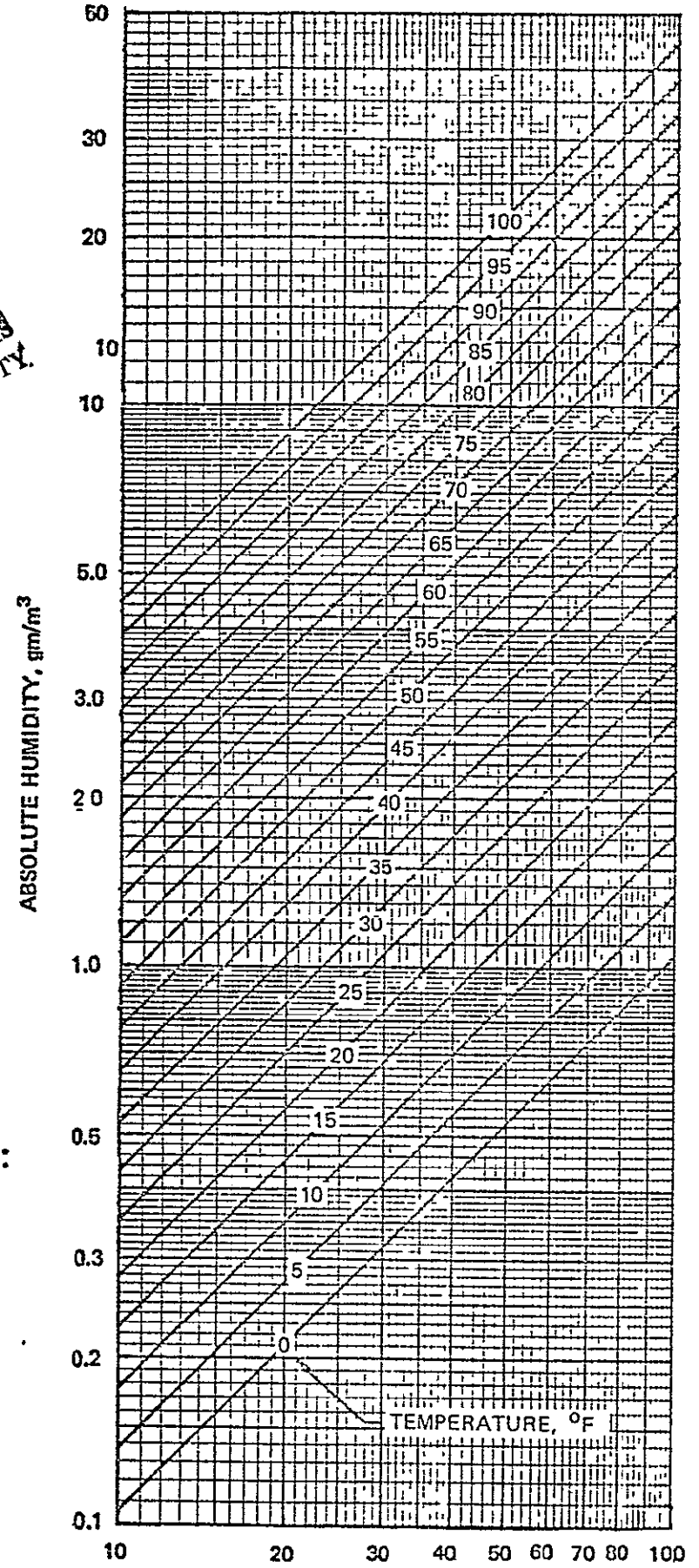

FIGURE 2. ABSOLUTE HUMIDITY AS A FUNCTION OF RELATIVE HUMIDITY FOR VARIOUS AIR TEMPERATURES

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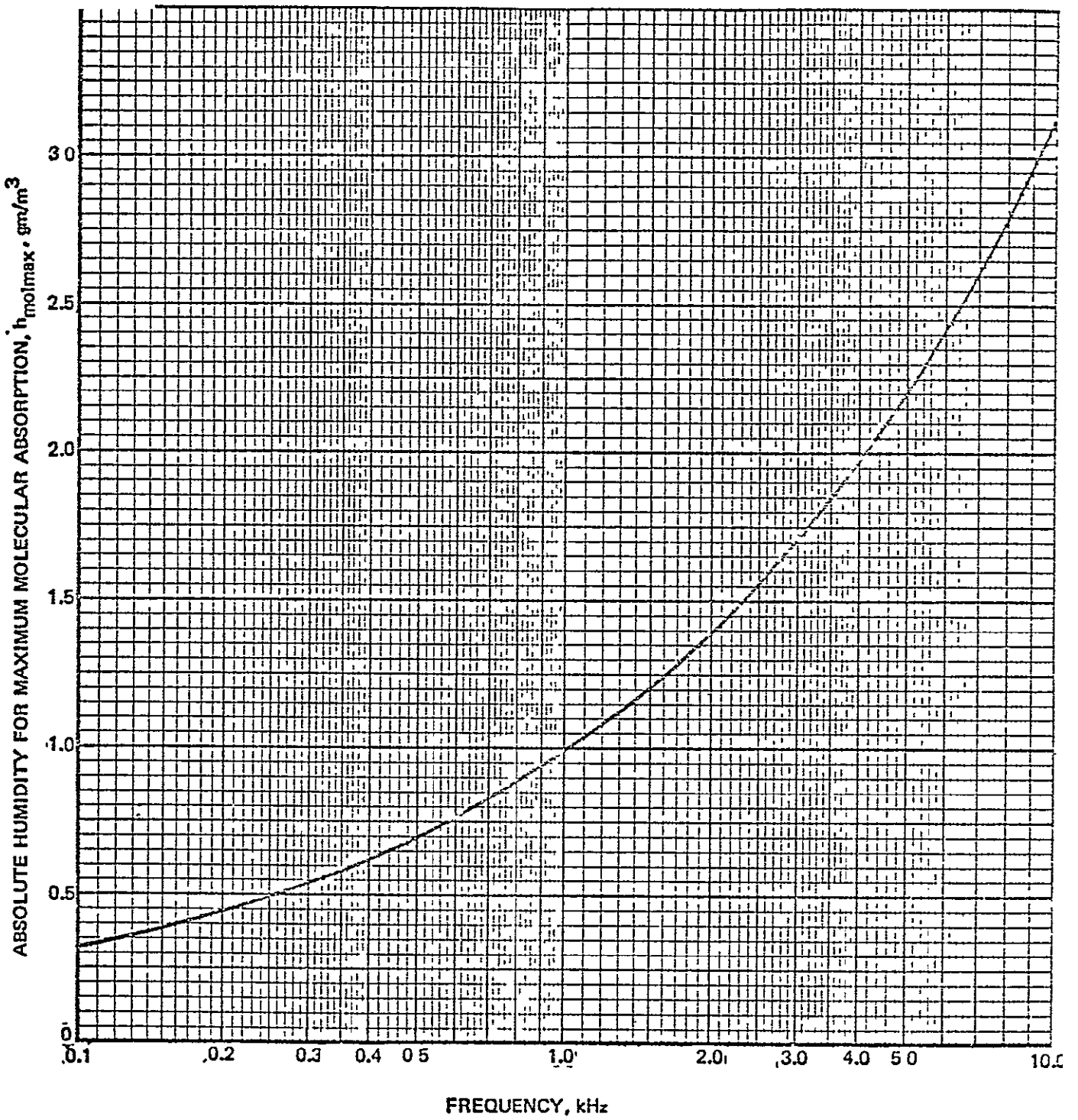

FIGURE 3. ABSOLUTE HUMIDITY FOR MAXIMUM MOLECULAR ABSORPTION AS A FUNCTION OF FREQUENCY

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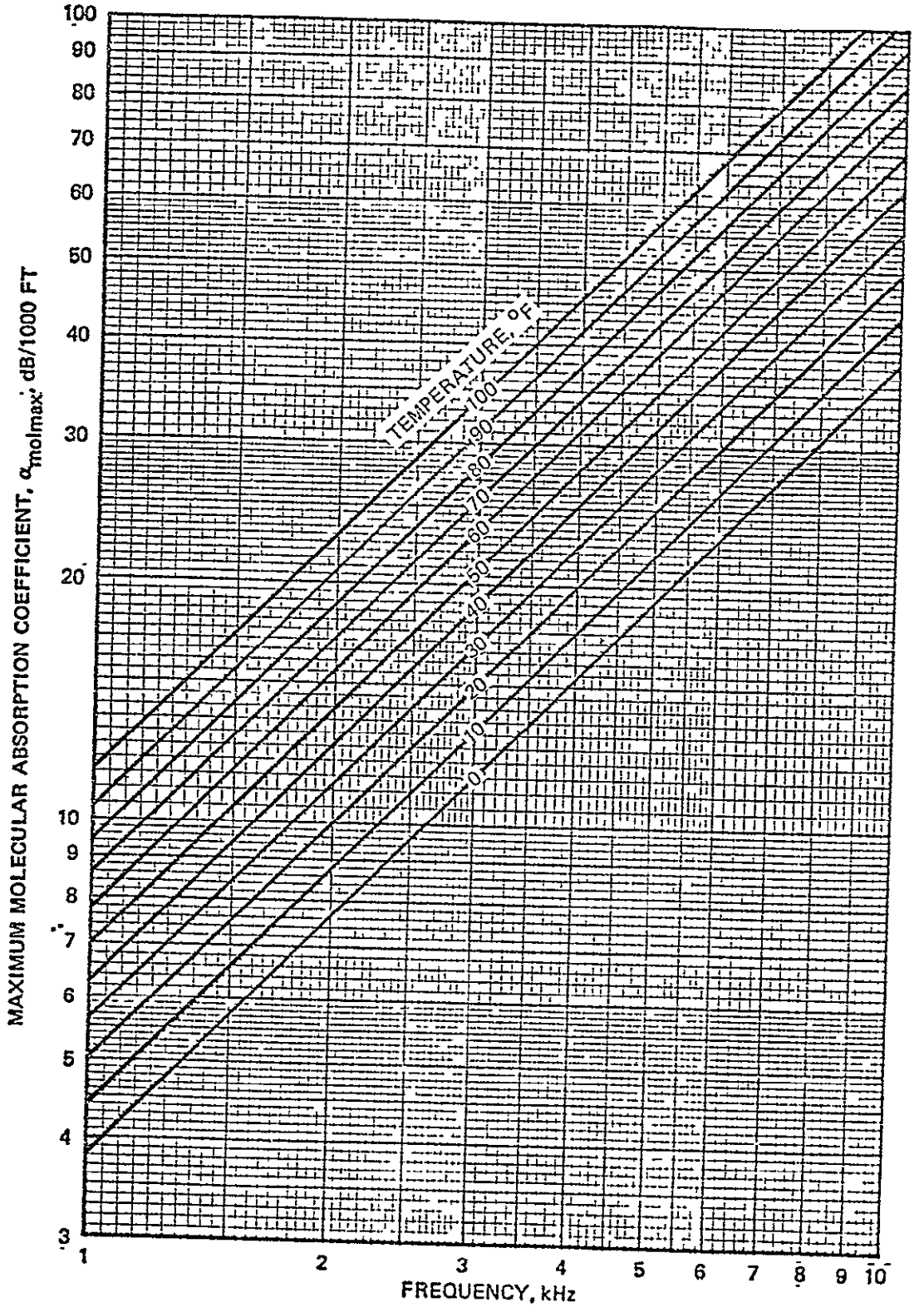

FIGURE 4. MAXIMUM MOLECULAR ABSORPTION COEFFICIENT AS A FUNCTION OF FREQUENCY FOR VARIOUS AIR TEMPERATURES. (KNESER'S VALUES FROM REFERENCE 1.)

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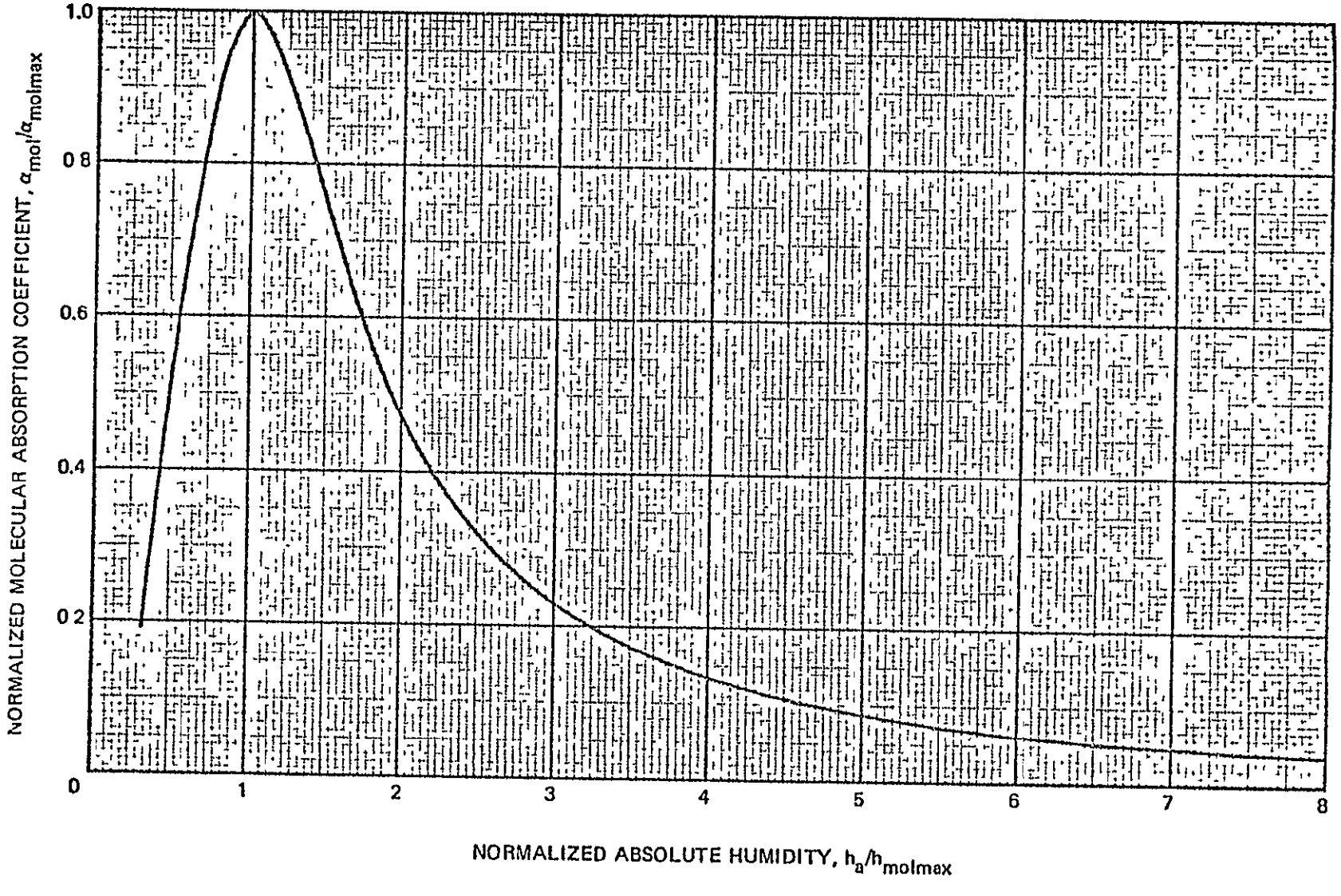

FIGURE 5. NORMALIZED MOLECULAR ABSORPTION COEFFICIENT AS A FUNCTION OF NORMALIZED ABSOLUTE HUMIDITY. (KNESER'S VALUES FROM REFERENCE 1)

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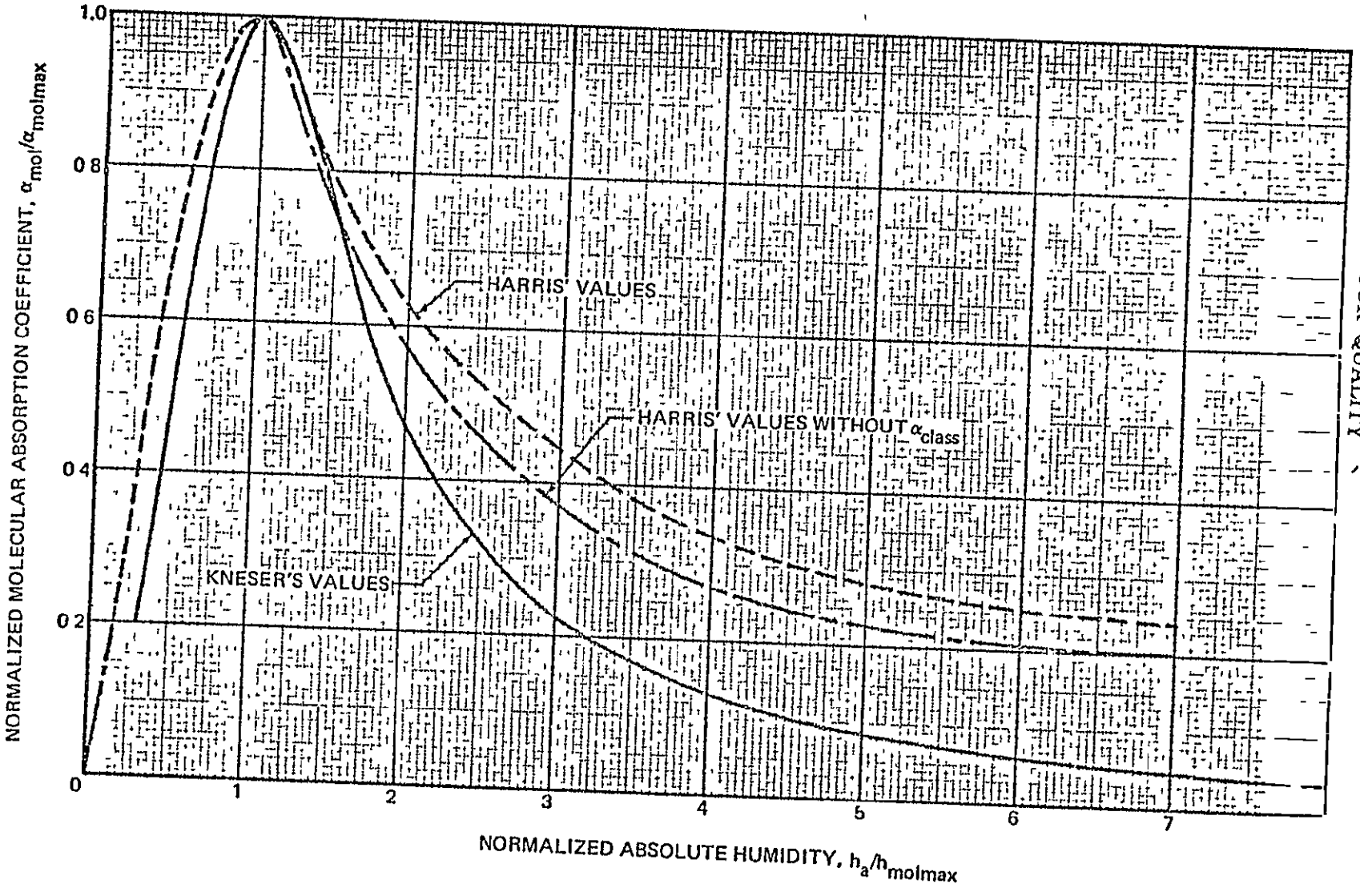

FIGURE 6. NORMALIZED MOLECULAR ABSORPTION COEFFICIENT AS A FUNCTION OF NORMALIZED ABSOLUTE HUMIDITY. (KNESER'S VALUES FROM REFERENCE 1; HARRIS' VALUES FROM REFERENCE 4.)

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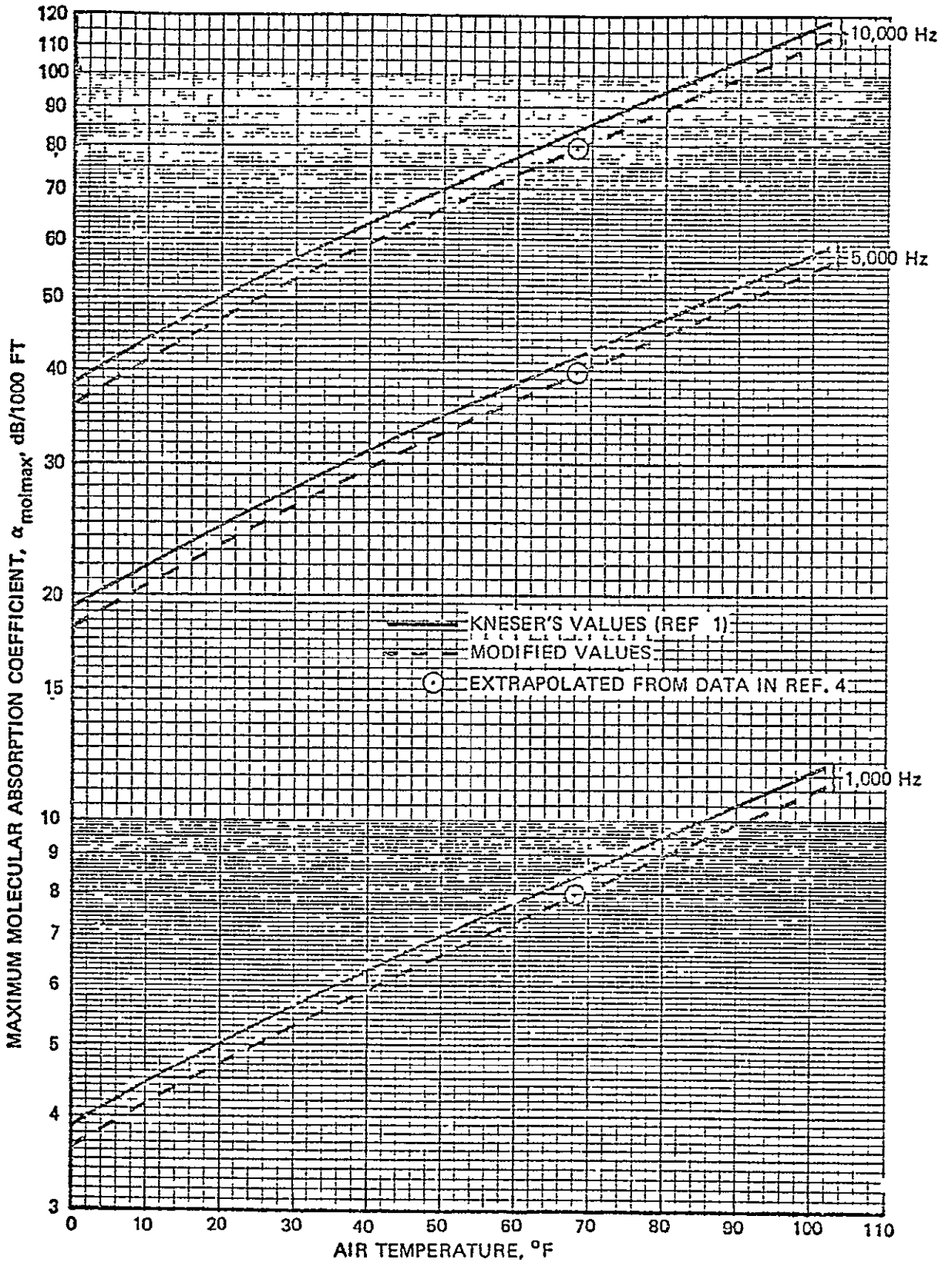

FIGURE 7. THEORETICAL AND MODIFIED MAXIMUM MOLECULAR ABSORPTION COEFFICIENTS AS A FUNCTION OF TEMPERATURE FOR THREE FREQUENCIES

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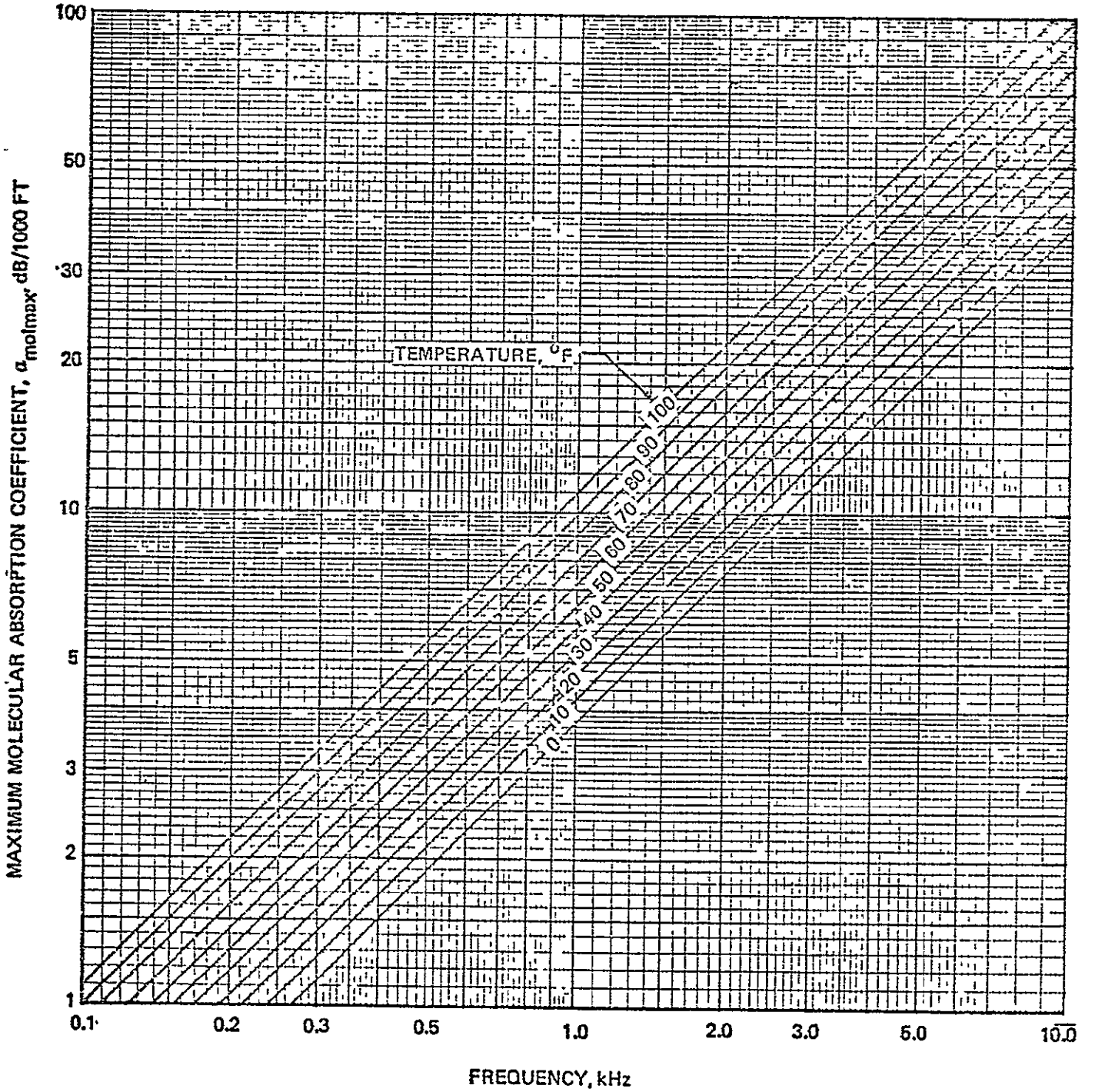

FIGURE 8. MAXIMUM MOLECULAR ABSORPTION COEFFICIENT AS A FUNCTION OF FREQUENCY FOR VARIOUS AIR TEMPERATURES

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FIGURE 9. NORMALIZED MOLECULAR ABSORPTION COEFFICIENT AS A FUNCTION OF NORMALIZED ABSOLUTE HUMIDITY